

EVALUATION OF CONTINUOUS EVALUATION SYSTEM OF EXAMINATION IN KENDRIYA VIDYALAYAS

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P R E F A C E

The present project has its begining in a study conducted by the present authors into the results of the Continuous Evaluation System at Sambalpur Central School. That study was conducted using the information on students of Ninth Class during the year 1979-80. Examinations have a surprise/uncertainty element in them, and as such, examinations reflect a real life problem solving situation where the problems are not predictable, and as such the solutions are not predictable, known before hand.

Continuous Evaluation System, as in vogue in Central Schools, presents level of surprises/ uncertainty to the student in any one class the student studies. This permits one to study the behaviour of the students, under varying levels of uncertainty. The study conducted by the authors presented some interesting results, necessiating one to formulate the present project, financed by the N.C.E.R.T. The present project modestly enlarges the area of study in three Central Schools and the present report contains the details of analysis. The results are not conclusive and may be a more detailed study is necessary.

N.C.E.R.T. suggested four Schools to be studied. In addition to Schools at Sambalpur, Visakhapatnam and Delhi, the School at Khurda Road was also suggested for study. The School could not be taken up as most of the students of Tenth Class for the year 1983-84, could not be traced at the time of the survey i.e. 1984-85.

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Chapter-1

THE PROJECT

THE PROJECT

Introduction:

Examination reforms continue to remain the central aspect of the reforms of education in our country. After the attainment of independence, a number of innovations were introduced in the form and content of examinations at all levels starting from the primary level to the University level. The spectrum of examination reforms introduces at one end the abolition of examinations at the end of the year which were serving as an indicator of promotion to higher classes. This was done in almost all the schools at the primary level. At the other extreme lies the introduction of the system of continuous evaluation. The Central Schools of the country adopted such a system where there will be an examination almost every month. The present report is the evaluation of this system of continuous evaluation.

1.1 Continuous Evaluation System:

Central Schools, also called Kendriya Vidyalayas, were started by the Central Government to cater to the needs of transferable Central Government employees, thus the schools get a cross section of children whose parents

range from Class IV employees to senior officers. In addition to this section of students the schools, depending on the vacancies give admission to children from other sections of the society.

Examination reforms attempted in these Central Schools are of completely different nature, different from the state run schools and Colleges. Instead of evaluating the student by adding internal and external assignment marks ~~efor~~ the year end one point examination the student in a Central School is evaluated continuously throughout the year. Here the continuous evaluation has a time component, which help evaluate the student's ability in different characteristics such as creativity, comprehension, analytical ability and finally regularity. All these evaluations together give the index of the student's performance and allows the student to get promoted to the next higher class.

There are five components in this continuous evaluation which have different weightages for the purpose of preparing the final index of performance of the student. They are :

1. Projects (P)
2. Assignments(A)
3. Unit tests (U)
4. Half yearly Examination (H)
5. Yearly or Annual Examination (Y)

In each subject, the student in general, has to prepare three projects, three assignments and appear five unit tests, one Half yearly examination and one Annual Examination during an academic session. This keeps the student almost busy in preparing for one examination or the other with varying quantities of course content and varying levels of uncertainty.

The projects, from now onwards denoted by P, are a type of assignment or work which is given to the students to be done at home. The students are free to choose any project in the subject on their own or attempt the projects suggested by the teacher. It is expected that this type of work gives the students a chance to show their creativity, comprehension and analytical power. The students know the problem very well in advance and there is no uncertainty involved as far as the problem is concerned. These three projects together contribute 10 marks out of 100 marks of the final index.

In languages, the projects are generally given to improve and get ~~the~~ command over the language. For example, the projects in the subject of English in general relate to increasing the vocabulary, or reading a novel or drama or a poem by a famous author, generally not in the course work, and analysing it. Similarly, in Hindi, projects are given to improve the language and include such items as collecting proverbs, word building, story writing, comparative study of different languages and finally comparative study of different variants of Hindi. Projects in Mathematics deal with only preparing charts or life sketches of famous Mathematicians. Projects in Science, in general, are constructive such as preparing a Herbarium, preparing models like electric bell ; D.N.T. Model; atomic structure. Projects in science are also investigative, such as investigating the effect of different coloured light on rate of photosynthesis or estimating calorific value of different fuels. Sometimes preparation of charts are also encouraged in Science. Regarding projects in Social Studies, in addition to preparation of charts, maps and models, some projects are given which are descriptive in nature. For example, comparison of different civilisations come under this category. The teachers, with their own experience or with the help of library, suggest some projects to students, and

students can select one out of them depending on their interest. The students, in turn, take the help of either the library or their parents or at times their teacher to complete the project.

Regarding the next component of the continuous evaluation, that is assignments, here after referred to as A, these are a type of home work which is generally on the exercises to be done at home as a part of a regular course work. This also is based on complete certainty, in the sense the problems are known. The student has to submit three assignments, one per each term, which has a weightage of 10 marks out of 100 marks in the final index. The questions at the end of each lesson of the text book generally form the assignment work. As far as the uncertainty level is concerned, the projects and assignments can be grouped together as both of them deal with known problems and hence there is no uncertainty as far as the problem is concerned. The student is free to take the help of any body and complete the projects and assignments at home.

The unit tests, from now onwards referred to as U, are a set of monthly tests where the student is examined

and evaluated on the basis of tests conducted in the school itself. The duration of the course may be approximately more than one month. Depending on the school, the aptitude and work load of the teacher, the test may be objective or short answer type. Compared to projects and assignments, the level of uncertainty about the problems to be solved and answered in unit tests increases as the question paper covers wider syllabus and the student has to answer in the class room in the school but not at home. There is an element of secrecy about the question. As the course covered for a unit test is small, the probability that a particular question or a variant of it comes in the question paper will be generally high but not equal to 1 as happens in the projects and assignments. Generally, five unit tests are given throughout the year which has a weightage of 20 marks out of 100 marks.

The half yearly examination, referred to as H, is in the pattern of unit tests, but cover a larger course content and thus increasing the level of uncertainty further. As the courses for half yearly examination is ^{more} made the probability of a particular question coming in the question paper becomes lower than the unit tests. As the questions that come continue to be secretive, the uncertainty level increases. The student has to answer the examination in school and this

component has a weightage of 20 marks out of 100 marks. The answer books are returned back to the students after valuation, in all these components of P, A, U and H.

In all the above four components of the Continuous Evaluation System, the students and the parents have the advantage of knowing the performance almost continuously. This can help in introducing proper corrective systems by the parents as well as the students. This is a positive aspect wherein the parental interaction and involvement in their wards' progress is monitored almost continuously.

Lastly, the yearly or annual examination, Y, covers the whole course, thus taking the level of uncertainty to a very high level. Any question either a one word answer question or a short answer question or a multiple choice question- can be asked from the entire course, and the student has to answer in the examination hall in the school. This has a weightage of 40 marks out of 100. Thus, taking a look at the different components of the examination, the weightages are as follows :

P	A	U	H	Y	Total
10	10	20	20	40	100

It is important to remember here that the level of uncertainty increases as one moves from P to U to Y.

Given such a structure of evaluation, it should be expected that the scheme will have two effects. The first one is that the system provides incentives to the students to continue reading over the entire academic period, as the students' performance in all these examinations are given weightage for the purpose of promotion to the next higher class. This is the effect of regularity. The second effect is that it prepares the student to face the uncertainty. Thus, the continuous evaluation with varying degrees of uncertainty gives the student the necessary training to face the uncertainty with greater confidence than the year end one point examination, which as is many times documented, makes the student to be selective and face the examination on a probabilistic basis, leaving the result to a chance factor. The Continuous Evaluation System, from now on referred to as C.E. System, thus looks to be superior to other types of examinations. This method of continuous evaluation in Central Schools is in practice from Class 1 to 9, during which period, the student not only acquires the knowledge, but also gets the necessary training to face the uncertainty, thus gets the method of acquisition of knowledge. Since the student is well equipped, it is expected

that the student should perform very well in 10th class, All India Board Examination, which is only one point examination with maximum level of uncertainty.

1.2 The Present Project:

In Central Schools, the students in 9th and 10th classes read five subjects namely English, Hindi, Mathematics, Science and Social Studies. These subjects differ in terms of precision in the content. Mathematics and Science in general have a precision, in the sense the course generally is amenable to one type of interpretation, and the knowledge will enable the student in doing different types of exercises. A pythagogous theorem is a pythagorous theorem to all. Newton's laws of motion are Newton's laws of motion to one and all. But in case of Social Sciences, a French revolution is not a capitalist revolution to all. The performance of the student in all the five subjects in 9th class has to be analysed in order to estimate the effect of continuous evaluation; in different subjects, where the content differs.

Students' performance differs between the Schools also. Each school develops its own culture, depending on the resources available to the school and the academic and

social environment in and around the school. A Central School in cosmopolitan Delhi where there is a rat race or keen competition around, will be completely different than that of a School in a mofussil place where time looks to be standing still. Not only on resources, culture of the school seems to be dependent on other extraneous factors also such as the responses of the Saghatan authorities, teachers, parents and students. Thus the effect of continuous evaluation may differ between schools.

As we already mentioned that, Central Schools cater to the children of transferable employees of the Central Government, there will be students in this school whose parents range from Class IV employees to Senior Officers. In addition to this depending on the vacancies, children from local population also join the school. The parental backgrounds differ not only in terms of their income, but also in terms of their educational background. In the context of the modernised courses and the intense evaluation, the role of the parent in the educational development of their children changes drastically from a non participant observer to a participant encourager. So one can hypothesise that parental background does help the student in facing the uncertainty. Keeping all these in view, the following aims are fixed for the project.

1. To study the relationship between the performance and the level of uncertainty in different subjects and different schools.
2. To study the effect of Continuous Evaluation System on the final performance of the students.
3. To study the relationship between parental characteristics and the performance of the students in the context of uncertainty.

1.3 Objectives of the Present Project:

The major objective of the present project is to assess the usefulness of the Continuous Evaluation System of examinations in equipping the students to face the uncertainty. As already discussed earlier, there are five varieties of examinations that each student has to face in each subject in a year. Arranged in ascending order of uncertainty, they are :

1. Projects and Assignments grouped as one which have zero uncertainty level, termed as P,
2. Unit tests which are monthly tests on limited course content U,
3. Half yearly examination H,
4. Yearly or Annual Examination, where the uncertainty is maximum Y.

This system is used from Class I of the Central Schools and many of the students who form the sample of our study, have had eight years of experience of the system already as they enter the 9th class. This system is used over the eight years for the promotion to the next higher class of a student.

The success or failure of the system is defined in terms of realising the objective of facing the uncertainty. That means that the system is said to be successful if, in - addition to imparting the accumulated knowledge, it trains the student to face uncertainty.

We have two situations which the data provides, where we can test the usefulness of the system. The first situation is the data on various components, that is the marks obtained by a student in the various components in the 9th class. In this situation, the performance of the student in various components of the examinations can be utilised. The second situation is the final 10th class Board Examination where the student faces the highest uncertainty of the school career. These two situations help in formulating a testing procedure of the system.

If a student continuously improves the performance over the Ninth class examination constituents, we can

suggest that the student provides an evidence of the success of the system. In otherwords, if a student gets the following sequence of marks.

$$M_P \leq M_U \leq M_H \leq M_Y ,$$

where M_P = marks in Projects and Assignments together

M_U = marks in Unit tests.

M_H = marks in Half yearly examination

M_Y = marks in Yearly or Annual Examination,

then the student shows a high uncertainty- higher performance situation and hence indicates an evidence for the success of the system.

On the other hand, if the student gets the following sequence of marks

$$M_P \geq M_U \geq M_H \geq M_Y$$

then the student shows a low performance under high uncertainty and hence indicates an evidence for the failure of the system. Further, if the high uncertainty-high performance student gains more marks in the total compared to a student with high uncertainty-low performance, the system can be said

the success of the system. If we
 where the uncertainty is the
 a career, we can formulate the
 laws. If the student who had high
 ability in the ninth class, also gains
 examination when compared to low
 ability students, then one suggest
 success of the system.

as and objectives of the present
 are selected from different enviro-
 place, another in an industrial
 metropolitan city and the information
 acted. In the following chapter, the
 is given.

THE SCHOOLS UNDER STUDY2.1 Central School, Sambalpur.

Central School, Sambalpur is located in the outskirts of the town called Sambalpur. Sambalpur is a mofussil town with about a lakh of population in one of the under - developed states namely Orissa. The school did not have a building of its own, but had rented two buildings, one for the primary section and the other for the secondary section. The school had an unimpressive play ground, which can be called a playground, only for the namesake. But later, the investigator came to know that on 1st of February, 1985, school has shifted to its own building near newly developing complex of Industrial Estate. The School Committee took the responsibility of constructing a building of its own for the school, which they did in course of time by collecting funds from local businessmen, parents of the students and general public; apart from the usual grants. This time, the building is too big to accommodate the meagre strength of the school, in the sense that many rooms are kept vacant. This school, being one of the prestigious English medium schools, the other being St. Joseph's Convent in the town, attracts the attention more of the elite and rich of Sambalpur public in addition to serving the Central Government employees with transferable jobs. Recently, another school namely Madanavati School was started and so the pressure

on Central School reduced a little. Central School in Sambalpur caters to the needs of the Central Government employees like Post and Telegraphs, Railways, Television Centre, business community of Sambalpur, lastly to the people whose mother tongue is not Oriya, under which category teachers belonging to Sambalpur University, University College of Engineering, Burla and Veer Surendra Sai Medical College in Burla are also benefited. Sometimes, private sector based companies like Hirakud Aluminium Company are also getting the advantages of the school.

The school starts from Class 1, and each class has only one section consisting of about 40 students, and has classes upto Tenth class. Tenth class has only one section with a strength of 32. Senior Secondary section with Class XI and Class XII of Science stream is there but with a very small number of students, always below a strength of 20. Arts stream did not start because of lack of students.

Regarding student population, total strength of the school is 409 during 1984, the year of survey, out of which 140 (34 %) are girls and 269 (66 %) are boys. Among the students, there are 13 students belonging to Scheduled Castes and 19 students belonging to Scheduled Tribes. The school does not have its own conveyance. School authorities have arranged

two Road Transport Corporation buses to bring students from Sambalpur town. But for Sambalpur University, University College of Engineering and V.S.S. Medical College, Burla and for Hirakud which places are situated about 15 Kms distance from the school, no such arrangements were made by the school. So the students from these places had to manage for themselves. Hirakud Aluminium Company arranges their own transport for the children of their employees. Parents from Burla come to an understanding with the University authorities for their transport arrangements.

Regarding the teaching staff, the school has 22 staff members out of which only 6 are females. There are 10 P.G.T. posts (Postgraduate teachers) in all but P.G.Ts. in Mathematics, English and Physics are not filled up by Sanghatan. So the school makes some ad-hoc appointments around Dasera holidays. Many times, the school finds it very difficult in finding suitable candidates for these posts. These 22 staff members include teachers for extra curricular activities like Socially useful Productive work for girls and boys separately, Music, Drawing, Yoga and Games. Here also the teachers for S.U.P.W. for boys was not filled up. So practically, there are only 16 teachers to teach Class I to Class XII for all curricular subjects which is totally insufficient. Because of this

reason, even the teachers of extra curricular activities are given regular teaching assignments. For example, teacher for S.U.P.W. (girls) and also Music teacher teach Hindi for lower classes whereas Yoga teacher teaches Science. Teachers are mainly people belonging to Orissa State, but Oriya as a subject is not taught in the school.

Regarding the other facilities in the school such as Library and Laboratories, there is one post of permanent Librarian which fell vacant because the previous Librarian was transferred and no new person was appointed. So a temporary arrangement was done with P.G.T. (Biology) who in his leisure time, can issue some books to the students in emergency. He himself furnished the following details about the library with the help of registers. The library is situated in a small hall in which one half of the place was occupied by almirahs containing books and the other half is the place for reading which can hardly accommodate 20 students at a time. According to the register, there must be 6698 books, but only 6000 could be located by him. Library gets three English daily news papers, two Oriya news papers alongwith English and Hindi weekly magazines and science magazines. Coming to the laboratories, they are situated in three small halls of a tiled building. Each laboratory is in the charge of a P.G.T.

who is assisted by a Laboratory Assistant.

We have collected the data for the Tenth class students of 1984 batch. Out of 32 students who appeared for Board Examination, we could contact 29 students (17 boys and 12 girls) who studied Ninth as well as Tenth in this central school. We have also collected socio-economic data for parents--that is occupational status and educational qualifications of both father and mother, their income and also the institutions in which they are employed.

Though this school is located in a mofussil town in a backward State, educational levels of both the mother and the father are very high.

Distribution of Parents according to level of education

<u>Sl. No.</u>	<u>Level of Education</u>	<u>Score</u>	<u>Father</u>	<u>Mother</u>
1.	Illiterate	0	-	2
2.	Less than Matric	1	3	11
3.	Matric	2	4	10
4.	Graduate & Non technical	4	9	5
5.	Postgraduate & Technical	6	13	1
			29	29
Average score of fathers' education			=	4.32
Average score of mothers' education			=	1.96

From the above table, it can be seen that the students whose fathers are educated upto B.A. and above, are majority in Sambalpur School. Out of 29 students, 22 students adding upto 76 % belong to this category. Similarly, the students whose mothers are educated upto Matric and above are 16 out of 29 adding upto 55 %. Interestingly, 13 out of 29 students, that is 45 %, meaning approximately half and number of students in the sample are there whose fathers are post graduates whereas out of 29, only 1 student is there whose mother is also a Postgraduate. In our sample, students whose fathers are completely uneducated are not at all there, but with respect to mothers' education, there are two students out of 29, whose mothers are illiterate.

Regarding the income levels of parents, the following is the distribution.

Distribution of parents according to level of monthly income

<u>Income Range</u>	<u>Father</u>	<u>Mother</u>	<u>Total</u>
0 - 500	0	-	0
500 - 750	2	1	2
750 - 1000	3	-	3
1000 - 1250	3	-	3
1250 - 1500	3	1	3
1500 - 1750	5	-	4
1750 - 2000	-	-	-
2000 - 2500	5	-	6
2500 - 3000	4	-	4
300 and above	4	-	4
	29	2	29

Average Fathers income Rs. 1991

Average Mothers income Rs. 69

Average income of the family Rs. 2013*

* The total family income does not equal to the incomes of the Father and Mother due to the open end of the class interval.

The students whose fathers' income is above Rs.2000 per month are sufficiently large. Out of 29, 13 students, that is around 45 % , belong to this category. But employment of mothers is not encouraging. There are only 2 students whose mothers are employed, out of which one person is a teacher in Talcher Central School in Orissa and the other person is a Graduate and works as a teacher in Madana-vati School, Sambalpur. Among the fathers, there are three persons who are Professors in Sambalpur University, another is a Senior Executive in the confidential section of Hirakud Aluminium Company, another person is a Senior Chartered Accountant in Aluminium Company. Average fathers' income is Rs.1991 per month and the average mothers' income is as small as Rs.69 per month.

Regarding the institutions in which the parents are working, the distribution is as follows :

Distribution of Parents according to the Institution they are serving.

<u>Institution</u>	<u>Father</u>
1.Defence	2
2.Central Government	4
3.State Government	2
4.Public Sector	3
5.Private sector	5
6.Autonomous	7
<u>7.Selfemployed</u>	<u>6</u>
-----	<u>29</u>

Considerable number of students are there in the class whose fathers are working in autonomous institutions like Sambalpur University, Central School and other schools of the town. 7 out of 29, that is, 24 % come under this category. Approximately equal number of students, 6 out of 29, meaning 21 % , are there whose parents are having their own business. Parents from private sector add up to 17 %. Interestingly, Central Government employees are only 14 %. There are only 2 students out of 29 whose fathers are working in the defence establishment, one as a major in N.C.C. and the other was a retired Navy Officer. The distribution seems to be quite wide spread and not concentrated in any of the institutions.

2.2 Central School, Visakhapatnam.

Central School, Visakhapatnam is located at Malakapuram in Visakhapatnam, Andhra Pradesh. It is appropriate to call Visakhapatnam an industrial centre because Hindustan Shipyard, Bharat Heavy Plates and Vessels, Hindustan Zinc Limited, Hindustan Petroleum Corporation Limited, Ship building yard, Coromandel Fertilisers and Visakhapatnam Steel Plant are located in and around the city. The city has three Central Schools of which we are concerned with the School in Malakapuram. The school is situated in 'Nav Sena Bagh',

the Campus of our covered Navy Establishment. The school has its own huge building with sprawling playgrounds. As a back-drop, there are number of blocks of houses, housing the lower cadres like M.C.Po. (Petty Officers) of the navy establishment. To the left of the school, there are few quarters allotted for Central School teachers. Beyond these quarters, some more quarters are there for officers of Navy. All this scenario leaves a reasonably good impression about the school for an outsider. Since there are large number of English and Telugu Medium Schools, the pressure of local population on this Central School is not much. This Central School mainly caters to the needs of the Navy wing of defence establishment. Since Visakhapatnam is an industrial town, as mentioned above, public sector industries which dominate are also benefitted by the school. In addition to this, some Central Government Departments like Railways, Indian Audit and Accounts Departments also get the advantage of the school. Children from business community generally do not get a seat in this school. Visakhapatnam school differs from Sambalpur in the sense that children whose parents work in educational institutions like University, Medical College and Engineering College are generally absent here. At the most, children of Central School staff can be found here.

The school starts from Class-I and reaches upto senior & secondary sections. Tenth class has four sections with a total strength of 116 students. In addition to the regular subjects, the school offers Telugu as one of the optional languages.

Regarding the student population, the total strength of students is 1607 with 906 boys (56 %) and 701 girls (44 %). The students belonging to Scheduled Castes and Scheduled Tribes add upto 58 boys and 33 girls. Road Transport Corporation buses are arranged for the children to come to school. Some students from Visakhapatnam town come to the school by regular transport buses.

Regarding the teaching staff, the total strength of the teaching community is 81 of which 42 are male teachers out of which three teachers belong to Scheduled Castes or Scheduled Tribes and 39 are female teachers. In this school , there are 10 Post graduate teachers (P.G.Ts), and all of them are permanent. Trained Graduate Teachers (T.G.Ts) are 23 out of which only two teachers are appointed on temporary basis. Primary teachers (P.R.Ts) are 31 in number out of which 12 teachers are appointed on adhoc basis. Coming to the teaching for extra curricular activities, there are three physical training (P.T) teachers out of which one teacher is on adhoc basis. One music teacher, one drawing teacher, three Yoga teachers

three S.U.P.W. teachers, out of which two were appointed on adhoc basis. In all, there are 12 teachers belonging to this category. Generally, by the beginning of the academic year itself, the adhoc vacancies are filled up by the Principal. Though all posts are filled up in time, 17 out of 81 posts are filled on adhoc basis. Interestingly, some of the Navy Officers' wives fill these adhoc posts which practice does not seem to be doing good for the students according to Senior Officer of Navy.

Regarding the other facilities of the school such as library and laboratories, there is a permanent Librarian but with no assistant to help him. He himself has to do even the sweeping and cleaning of the library. In addition to his own library duties, sometimes teaching in the primary classes and invigilation duties in the examinations are also given. The Librarian has 38 periods in a week, in addition to the regular work of the library such as making a list of the books, preparing accession numbers for the books and arranging the books etc. The library is quite spacious and contains all the necessary equipments, like shelves for keeping the books and tables where students can read. The library has 13,000 books in all and they are well classified. Library gets two English daily News papers, One

Telugu daily News paper alongwith six English Weekly magazines and 5 Hindi Weekly magazines, in addition to regular Science magazines such as Science Today and Science Reporter. Next, the laboratories are located in three big halls with all the accompanying work tables. Three permanent P.G.Ts. assisted by three T.G.Ts. and their Laboratory Assistants are in charge of the laboratories.

There are four sections in Tenth class with a total strength of 116. Out of the students who studied both the Ninth and Tenth class in this school, we could collect information from 91 students of which 56 are boys and 45 are girls.

The analysis of Socio-Economic Data, with the details of parental education, their income levels and institutions to which they belong is given in the following tables.

Distribution of parents according to level of education

Level of Education	Score	Father	Mother
1. Illiterate	0	0	19
2. Less than Matric	1	9	30
3. Matric	2	45	33
4. Graduate & Non technical	4	14	7
5. Postgraduate and technical	6	23	2
<u>Average-Score</u>		<u>91</u>	<u>91</u>
Average score of fathers education =		3.21	
Average score of mothers' education =		1.49	

From the above table, we can see that the students whose fathers are educated upto B.A. or above are 37 students out of 91, which means 40 % of the students belong to this category. Similarly, the students whose mothers are educated upto Matric and above are 42 out of 91 totaling to 46 %. Out of 91 students, 23 students i.e., 25 % of the students are there whose fathers are Postgraduates. In case of mothers' education, only 2 students have their mothers as Postgraduates. In our sample, there are no students whose fathers are completely illiterate, but 19 out of 91, that is 21 % students are there whose mothers are illiterate. This lower percentage levels of parental education, with only 40% of the fathers educated upto B.A. and above and only 46 % of mothers educated upto Matric, keeps Visakhapatnam School at a lower level than Sambalpur. The average level of fathers' education is only 3.21 and the average level of mothers' education is 1.49.

Regarding the income levels of parents, the following distribution gives an idea about the school.

Distribution of Parents according to level of monthly income

Income Range Rs/Month.		Father	Mother	Total
1.	0 - 500	7	1	6
2.	500 - 750	12	2	13
3.	750 -1000	11	1	11
4.	1000 -1250	19	2	19
5.	1250 -1500	7	-	7
6.	1500 -1750	9	-	8
7.	1750 -2000	5	-	5
8.	2000 -2500	11	-	10
9.	2500 -3000	5	-	6
10.	3000 and above	5	-	6
Total		91	6	91

Average Fathers' Income = Rs.1455

Average Mothers' Income = Rs. 51

Average income of the family = Rs.1490

The students whose fathers income is above Rs.2000 per month are not very large in number. In a total strength of 91, only 21 students, that is 23 % are there whose fathers get Rs. 2000 per month or more.

Regarding the mothers' employment, out of 91 students, only 4 four students are there with their mothers employed. But all of them are employed only in lower income jobs. out of them, three persons are employed as teachers in

a school, one lady is a typist in Calfrost Company. Two mothers receive the pension of their husbands. Regarding the fathers, some of the high income occupations are senior positions in Defence establishments, Engineers in Indian Railways, Divisional Manager in M.M.T.C., Electrical Engineer in Shipping Corporation, Deputy Manager of Hindustan Petroleum Ltd. and Deputy Chief Engineer in Visakhapatnam Steel Plant. Average fathers' income is Rs.1455 per month and average mothers' income is Rs. 51 per month.

Regarding the institutions in which parents are working, the distribution is as follows:

Distribution of parents according to the institution they serve

<u>Institutions</u>	<u>Father</u>
1. Defence	64
2. Central Government	4
3. State Government	3
4. Public Sector	11
5. Private Sector	2
6. Autonomous	6
7. Self employed	1
<u>TOTAL</u>	<u>91</u>

Interesting feature about the fathers' occupation in this school is that out of 91 students, 64 students meaning 70 % of students have their fathers employed in the

Navy wing of defence establishment. Next comes the Institutions in Public Sector like B.H.V.P. where 11 out of 91 that is 12 % of students have their fathers employed. Only six students have their fathers in autonomous institutions like schools. Representation from other institutions is negligible. Out of the 64 fathers employed in defence establishment, 54 of them meaning 84 % of them are in low income group.

It seems, from this distribution, that Central School in Visakhapatnam, caters mainly to the defence personnel and that too majority of these defence personnel also belong to the low income group. This is reflected in the average fathers income which is only Rs.1455 per month.

2.3. Central School, J.N.U., New Campus, Delhi.

Central School in Delhi is located near Jawaharlal Nehru University new campus in an institutional area where large number of institutions are existing. Some of these prestigious national institutes are I.S.I., I.I.T. , N.C.E.R.T., N.I.E.P.A. and Institute of Public Finance. Because of proximity of these famous institutions, one can expect that the students of this school to benefit much from the reforms of education. The Central School is located in its

own huge complex modern building, just adjacent to the Sanghatan building.

The school caters mainly to the needs of N.C.E.R.T., I.I.T. and J.N.U. Officials and these same institutions contributed finances to this new building. The school shifted to this new building, around 1982. It has three branches of primary schools, and one branch of secondary school. The school has Senior Secondary sections both in Sciences as well as Arts subjects. Delhi, being the capital city, has no dearth of either good English medium schools or Hindi medium schools, hence the pressure on this school is not much.

This Central School caters to a particular elite section of Delhi population. In addition to the above mentioned three institutions, other departments which are benefited by this school are National Fertiliser Ltd., Ministry of Education. Ministry of External Affairs, Survey of India and Indian Meteorological Department. Other institutions like, B.H.E.L.; Grindley Bank and D.E. S.U. also has some representation in the school. Finally, some children of the Central School teachers also get admission in the school.

Regarding the student population, the total strength in the school is 2842 with 1654 boys (58 %) and 1188 girls (42 %). Good amount of representation is there from Scheduled Castes with 146 boys and 92 girls in the school. But students belonging to Scheduled Tribes are only 7 boys and 9 girls. There are five sections in the Tenth class with a strength of 183 students. The school has five School buses specially run by Delhi Transport Corporation.

A look at the teaching staff is quite interesting. Among a total of 125 staff members, there are only 20 male members , 105 female members. In all, there are 15 P.G.Ts. , 49 ~~P.Ts.~~ T.G.Ts. and 44 P.R.Ts add upto 108. In addition to this curricular teaching staff, there are two S.U.P.W. teachers, two Yoga teachers, three P.T. instructors, One Music teacher and one Drawing teacher and one librarian, making the total strength of the teaching staff as 118 in all. Representation from Scheduled Castes and Tribes in nil. Except one primary teacher, all the teachers in the school are permanent.

Coming to the other facilities of the school, the Library is very spacious with all necessary arrangements

of the students to sit and read. There is one permanent Librarian who is in charge of the library. There are 10,000 books in all, which are well classified and arranged in separate shelves. The library gets three English Daily News papers, two Hindi News papers and 40 other weekly and monthly magazines in Hindi as well as in English. Different kinds of Science magazines suitable for different levels of students are found in the library. Next, the laboratories are situated in three spacious halls with all necessary equipments. The laboratory work is managed by three P.G.Ts. who are assisted by three P.T.G.Ts and three Laboratory Assistants. There is a sufficiently big play ground at the back of the school.

There are five sections in the Tenth class which has a total strength of 183. Out of the students who studied both Ninth as well as Tenth class in this same Central School, we could collect information from 99 students of which 45 are boys and 54 are girls. The analysis of socio-economic data, with the details of parental education, their income levels and institutions to which they belong are given in the following tables.

Distribution of parents according to level of education

Level of Education	Score	Father	Mother
1. Illiterate	0	0	8
2. Less than Matric	1	1	24
3. Matric	2	20	33
4. Graduate & Non-technical	4	27	27
5. Postgraduate and technical	6	51	7
TOTAL	99	99	99

Average score of fathers' education	=	4.6	
Average score of mothers' education	=	2.42	

From the table, it can be seen that students whose fathers are educated upto B.A. and above, are majority in this school also. Out of 99 students, 78 students meaning 79 % of students belong to this category. Similarly, the students whose mothers are educated upto matriculation and above also form a majority with 68 % of students belonging to this group. Another interesting fact here is that parents who are Postgraduates or technical degree holders are also more in number. Approximately, more than half of the class, that is 52 % , are there whose fathers are highly qualified. Only 7 % of students have highly qualified mothers. Examining the students with lower levels of parental education, there are no students whose fathers are completely uneducated and eight students are there whose mothers are uneducated. But

the percentage of students with illiterate mothers is less than that of Visakhapatnam school where 21 % have uneducated mothers. Out of 7 highly qualified mothers, 4 persons are employed as teachers in schools. High percentage of parental education, with 79 % of fathers educated upto B.A. and above and 68 % of mothers educated above Matric, places Delhi school above the Sambalpur school. The average fathers' education in this case is 4.6 and average mothers' education is 2.242.

Regarding the income levels of parents, the following distribution gives an idea about the school.

Distribution of parents according to the level of income

166X

Range Rs/month	Father	Mother	Total
1. 0 - 500	2	0	2
2. 500 - 750	0	1	1
3. 750 -1000	4	2	6
4. 1000 -1250	9	10	9
5. 1250 -1500	9	1	8
6. 1500 -1750	15	1	12
7. 1750 -2000	10	0	7
8. 2000 -2500	24	1	18
9. 2500 -3000	8	0	9
10. 3000 and above	18	0	29
	99	16	99

Average fathers' income = Rs. 2198

Average mothers' income = Rs. 191

Average Total income of the family = Rs. 2421

In Delhi, the students whose fathers are getting Rs.2000 and above per month are sufficiently large. Out of 99, 56 students come under this category. Mothers' employment position is slightly better here. 16 students are there whose mothers are employed. 9 of them are employed as teachers in Schools, two of them as Clerks and others are self employed. One interesting case is that one lady was employed in P and T Department on daily basis with Rs.18.64 per day. Some of the high positions occupied by fathers here are Wing Commander from Defence, Agro Economist from Krishi Bhavan, Director - Export Promotion, Chief Engineer in National Fertiliser Ltd., Manager in B.H.E.L., Executive Engineer in Border Roads Development Board and finally Readers and Professors from I.I.T. and N.C.E.R.T. Average fathers' income is Rs.2198 per month and average mothers' income is Rs. 191 per month.

Regarding the institutions in which the parents are working, the distribution is as follows:

Distribution of Parents According to the Institution they Serve.

<u>Institution</u>	<u>Father</u>	<u>Mother</u>
1. Defence	14	1
2. Central Government	19	1
3. State Government	1	3
4. Public Sector	5	-
5. Private Sector	7	1
6. Autonomous	52	9
7. Self employed	1	1
-----	99	16

Considerable majority of students are there whose fathers are employed in autonomous institutions like I. I. T., J. N. U., N. C. E. R. T. and other schools. 53 % of students belong to this category. After this, the representation, though not very large, comes from Central Governments and Defence Establishments, Central Government has a representation of 19 % which is followed closely by Defence establishment with 14 % representation. There is negligible representation from private as well as public sector institutions. State Government and self employed are only nominally represented. Regarding the mothers' employment, majority of the employed belong to autonomous institutions in teaching profession. Their representation in other institutions is minimum.

2.4 Relative Ordering of the three Schools.

Some sort of ordering was done regarding the facilities available in the schools and also socio-economic status of the parents of students.

Facilities:

With respect to facilities such as permanent teachers, financial position, good library and laboratories, J. N. U. new Campus School tops the list. This school has permanent teachers, huge buildings, nice library and well

equipped laboratories with teachers to manage them efficiently. Location of the school in the capital city and its proximity to other leading national institutions in itself provides many advantages in addition to providing incentives for children to work hard. Next in order comes Visakhapatnam Central School in Malakapuram. The School is in an advantageous position because it is attached and also located in the Navy Campus called "Nav Sena Bagh". Here all teachers are not permanent but all the adhoc posts are filled up in the beginning of the academic year. Laboratories and Library are sufficiently big and they are organised efficiently. Coming to the Sambalpur School, it is a picture of all disadvantages pooled together. In this school, leave alone the other teachers, even the P.G.Ts. are not permanent teachers. Many times adhoc posts are not filled up even upto October. The School, many times, finds it impossible to get adhoc posts filled up because of the inherent temporary nature associated with adhoc posts which can be terminated at any time. Another major disadvantage here is, unlike Delhi and Visakhapatnam Schools where the P.G.Ts. teach only ~~up to~~ eleventh and twelfth classes, in Sambalpur a P.G.T. teaches starting from class seven upto class twelve. A small library, even that is not properly organised and small laboratories with or without P.G.T.S. show us a picture of disadvantage, which the School has to face because of it being located in a mofussil

town in one of the backward States. With respect to facilities, Delhi School occupies first position, followed by Visakhapatnam School and third position goes to Sambalpur School.

Parental Status.

Considering the parental education, Delhi School maintains the first position but Visakhapatnam School is pushed to the third position. Delhi School has high level of average education for both fathers as well as mothers. Sambalpur School occupies second position and Visakhapatnam School occupies the last position.

Regarding the income levels of parents, the same ordering as that of education stands valid. The income levels of both the parents put together in Delhi, Visakhapatnam and Sambalpur Schools are Rs.2422, Rs.1490 and Rs.2013 per month respectively. The peculiarity of Visakhapatnam School having lowest income among the three schools is because of the reason that it caters mainly to the needs of Navy Personnel out of which majority of them belong to low income group getting less than Rs.2000 per month. Between Delhi School and Sambalpur School, Delhi marches ahead.

Comparison of the three schools, as detailed above, is also shown in the following table.

School	Average Fathers Educat -ion	Average Mothers Educat -ion	Average Total Income	Student Teacher ratio	Book Student ratio
	F_e	M_e	T_i	S/T	B/S
Sambalpur	4.31	1.96	2013	18.59	14.67
Visakhapatnam	3.21	1.49	1490	19.84	8.09
Delhi	4.6	2.42	2420	24.08	3.52

Regarding the institutions in which their parents are employed, Sambalpur School mainly caters to autonomous institutions like Sambalpur University, Medical College and Engineering College. Business community has an equally high share. Visakhapatnam School is dominated by Defence establishments and Delhi School is dominated by autonomous institutions like J.N.U. and I.I.T.

However, Sambalpur school is better placed regarding student teacher ratio and also Book student ratio.

From all these observations, one can say that Delhi School tops the list in all respects. Among the other two schools, Sambalpur School has an edge over the Visakhapatnam School in terms of socio-economic status of parents and Visakhapatnam School has an edge over Sambalpur School in terms of facilities provided in the School.

Chapter-3

METHOD OF ANALYSIS AND DATA PROCESSING

METHOD OF ANALYSIS AND DATA PROCESSING

In pursuance of the major objective of the study, we have collected data from three Central Schools in Sambalpur, Visakhapatnam and Delhi. This chapter gives the details of the data analysis. In Section-1, we give the description of the data collected. In Section-2, we give the method of data processing required for structuring & the analysis, we pursued for assessing the success of the system. In Section-3, we give the method of data processing required for analysing the parental characteristics and Section-4 shows the representativeness of our sample with the class.

3.1 Description of the Data.

The Continuous Evaluation System has five components for the Ninth class. They are projects (P), Assignments (A), unit test (U), Half yearly examination (H): Yearly or Annual Examination (Y). Data on the marks obtained by each student in the above evaluation components are obtained in the five subjects that form part of the curriculum in respect of the three schools. The subjects are English, Hindi, Mathematics, Science and Social Studies. In addition to the data on

marks of the student in the various constituents at the Ninth class, marks of the students in these subjects at the Tenth class Board Examination are also obtained. These data form the core data for analysis.

In addition to the data on marks, data on the parents is also collected. These data includes, apart from other data, Fathers' education, Fathers' occupation and place of employment and income, mothers' education, occupation, place of employment and income. This data is utilised to study the effect of these variables on the performance of the students and thereby evaluate the perceptions of the parents towards Continuous Evaluation System. We have collected this information from 29 students from Sambelpur School, 91 students from Visakhapatnam school and 99 students from Delhi school.

Further, we have canvassed questionnaire to parents, students and teachers to obtain their assessment of the system. The parents' questionnaire, canvassed to 24 parents in Sambelpur, 21 in Visakhapatnam and 30 in Delhi includes information on parents' involvement in the studies of their children, their understanding of the constituents of this type of Continuous Evaluation System and their assessment of the usefulness of the system. Similarly, a questionnaire was canvassed among the students numbering 20 in Sambelpur, 22 in

Visakhapatnam and 23 in Delhi. The questionnaire too asks about the parental involvement, the subjects the students like, their performance in various subjects, the types of projects they do as a part of the Continuous Evaluation System and the usefulness of the projects and of course Continuous Evaluation System itself.

A third questionnaire is canvassed among teachers numbering 20 in Sambalpur, 21 in Visakhapatnam and 23 in Delhi. The questionnaire covers the work load of the teacher, both curricular and co-curricular, educational qualifications and their attempts to improve their qualifications, their understanding of the Continuous Evaluation System, the experiments with the system and their critical evaluation of the working of the system.

3.2 Data Processing required to assess the success of the system.

The primary objective of the project is assess the Continuous Evaluation System as a reform in examination. The reform as the present project visualises, presents introduction of uncertainty at varying levels in different components of the system in a single year. At one end, we have projects and assignments, which have a zero level of uncertainty, as far as the examination is concerned. The

projects are determined earlier and the assignments are given earlier. The student can do the work at home after wide ranging consultations with the books and people including the teachers and parents. The student can be as creative as he/she wants to be, can be as innovative as he/she has the latent potential. The student can apply all the knowledge learnt from the class books and the concrete world that is around the students. Projects and Assignments, as a part of Continuous Evaluation System presents a case of a complete certainty. The second component is the unit tests which introduces an element of uncertainty, as the questions are declared in the class room, but the course content is limited. The third component is the Half yearly examination, where again the course content increases, but the questions are declared in the class room only. The last part of the Continuous Evaluation System is the Annual examination which includes the complete course taught throughout the year and questions are declared in the examination hall. In case of unit tests, and Half yearly examinations, the answer books are returned back to the student which gives scope for the verification and improvement. Thus the four components- Projects and Assignments (P); Unit tests (U); Half yearly (H) and Yearly or Annual examination (Y), present to the student four examinations with varying levels of uncertainty.

The present project aims to study the students' performance in the various components, and relate the performance to the degree of uncertainty. There are number of possibilities. At one extreme is the case that the student does improve his/her performance with each successive increase ^{of} and uncertainty that is from P to U to H to Y. The other extreme case is that the student's performance decreases continuously with increasing uncertainty, in which case the marks are highest in P and lowest in Y, with marks in U and H in the decreasing order.

Using the marks obtained in the various constituents, we can group the students according to their performance- uncertainty data. There are 12 such possibilities in all in addition to the two described above. Keeping in mind the basic objective of our project, that is to evaluate the success of the system on the basis of students' capacity in facing the uncertainty, we have fixed the yearly or Annual examination (Y) where the uncertainty is maximum as a reference point, the above 14 possibilities are grouped into eight possibilities, and we call these possibilities as eight runs. The eight runs are presented in figures in the following page 48.

If M_P , M_U , M_H and M_Y gives the marks in the respective constituents, the above eight runs can be represented as follows :

$$R_1 = M_P \leq M_U \leq M_H \leq M_Y$$

$$R_2 = M_P > M_U; M_U \leq M_H \leq M_Y$$

$$R_3 = M_P \leq M_U; M_U \geq M_H \leq M_Y \text{ and } M_U < M_Y$$

It can be seen that with some minor fluctuations, the marks obtained by the student increases with increasing uncertainty in these three runs. This means that the students who belong to these runs have high performance under high uncertainty.

$$R_4 = M_P > M_U; M_U \geq M_H \leq M_Y \text{ and } M_U > M_Y$$

$$R_5 = M_P < M_U; M_U \leq M_H \geq M_Y \text{ and } M_U < M_Y$$

In these two runs the marks vary randomly without any consistent relation with uncertainty levels. These two runs indicate that the level of performance is not related to uncertainty.

$$R_6 = M_P \leq M_U; M_U \leq M_H \geq M_Y \text{ and } M_U > M_Y$$

$$R_7 = M_P < M_U \text{ and } M_U \geq M_H \geq M_Y$$

$$R_8 = M_P \geq M_U \geq M_H \geq M_Y$$

In these three runs, ignoring the minor variations the marks ~~that~~ tend to decline with increasing uncertainty. Here the students have low performance under conditions of high uncertainty.

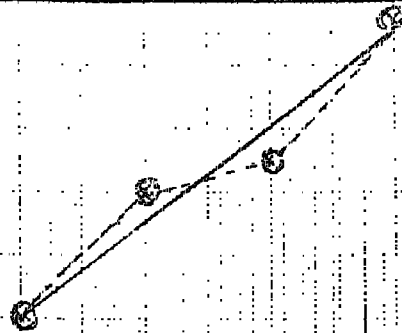
Here the first run R_1 indicates that the student is facing the uncertainty with equal confidence and the last run R_8 indicates that the students' performance decrease continuously with the increasing uncertainty. In other words, if we put an objective to the education and examination that ~~it~~ trains the student to face the uncertainty, then if a student falls in run R_1 , we can say that the system has succeeded in his/her case. On the other hand, if a student falls in the run R_8 , we can say that the system did not succeed in his/her case. In this project, we use this criteria to measure the success or failure of the system.

To measure the overall success of the system, we take the relative frequencies in each run. For example, in a school and in a subject, if the relative frequencies indicate that R_1 has 100 % with R_2 --- R_8 recording zero relative frequencies, then we can infer that the system has succeeded in that subject in that school, while at the other extreme, if we have R_8 registering 100 % and R_1 , R_2 - R_7

DIAGRAMATIC REPRESENTATION OF THE RUNS

RUN:1

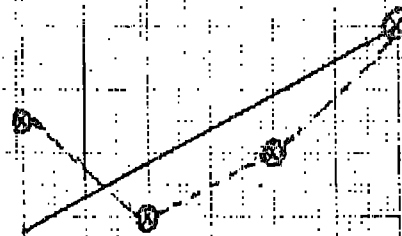
$$M_P \leq M_U \leq M_H \leq M_Y$$



RUN:2

$$M_P > M_U$$

$$M_U \leq M_H \leq M_Y$$

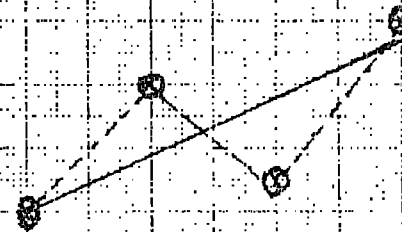


RUN:3

$$M_U \geq M_H \leq M_Y$$

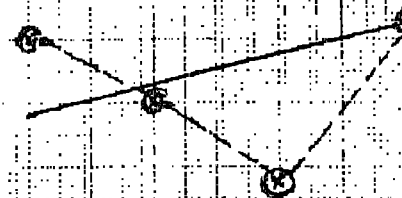
with $M_U < M_Y$

CASE (i): $M_P < M_U$



RUN:3

CASE (ii): $M_P > M_U$



MARKS

HYPOTHETICAL

POINTS OF EVALUATION

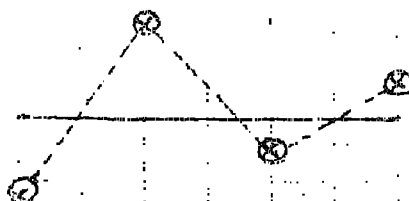
DIAGRAMATIC REPRESENTATION OF THE RUNS

RUN: 4

$$M_u \geq M_H \leq M_Y$$

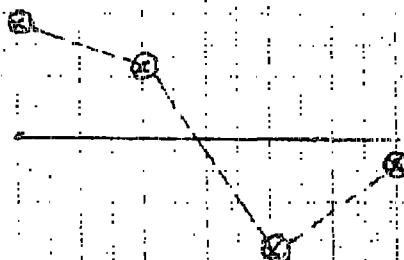
with $M_u > M_Y$

$$\text{CASE (I): } M_p < M_u$$



RUN: 4

$$\text{CASE (II): } M_p > M_u$$

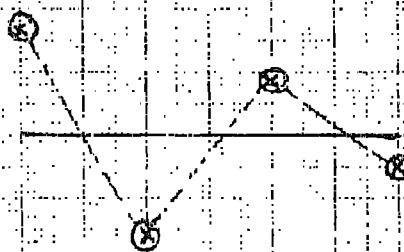


RUN: 5

$$M_u \leq M_H \geq M_Y$$

with $M_u < M_Y$

$$\text{CASE (I): } M_p > M_u$$



RUN: 5

$$\text{CASE (II): } M_p < M_u$$



HYPOTHETICAL MARKS

HYPOTHETICAL MARKS

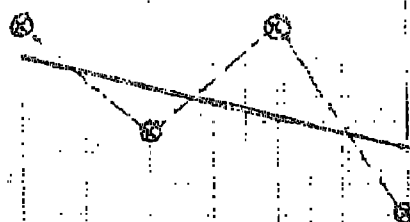
POINTS OF EVALUATION

DIAGRAMATIC REPRESENTATION OF THE RUNS

RUN: 6

$M_u \leq M_H \geq M_Y$
with $M_u \geq M_Y$

CASE (1): $M_P > M_u$



RUN: 6

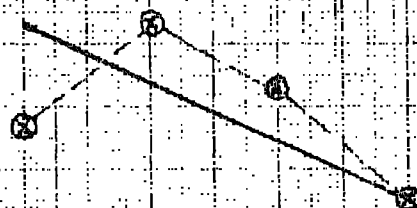
CASE (2): $M_P < M_u$



RUN: 7

$M_P < M_D$

$M_D \geq M_H \geq M_Y$



RUN: 8

$M_P \geq M_u \geq M_H \geq M_Y$



HYPOTHETICAL MARKS

POINTS OF EVALUATION

registering zero, then we can infer that the system has failed. But in normal circumstances, these two cases are possibly rare exceptions, while the common occurrence is the existence of frequencies in all most all the runs. It is here we have tried to use the ordering of sequences as mentioned earlier and postulated that the system can be taken as a success, if the relative frequencies are negatively related to the Number of the run, that is, if the relative frequencies decrease with the increase in the Number of the run, then we construe that the system indicates a success. This is a case where R_1 has a higher frequency compared to R_2 which in turn has a higher frequency than R_3 and so on. On the other hand, if the relative frequencies go on increasing as one moves from R_1 to R_8 , we can conclude that the system has been a failure. This analysis is presented schoolwise and subjectwise in Chapter-IV.

A high or a low relative frequency in a run indicates the preference of the student community to a particular uncertainty-performance choice, and if the preference of the student community is towards high uncertainty-high performance, the relative frequencies in the R_1 , R_2 , R_3 runs will be higher. If the preference of the community is towards high uncertainty-low performance choices, then the

relative frequencies will be loaded in the R_6 R_7 R_8 runs. If the community does not show any preference pattern, we have concentration of relative frequencies in the middle runs. With this in view, we have grouped the runs into three groups, the U group consisting of R_1 , R_2 and R_3 runs indicating the usefulness of the system, F group consisting of R_6 , R_7 and R_8 runs indicating the failure and I group consisting of R_4 and R_5 runs indicating the indifference towards the system.

Apart from the use of frequencies to assess the success of the system, we have tried to find whether the persons who indicate a success of the system also do succeed in getting X better marks in Ninth as well as Tenth classes. The question posed is if R_1 , R_2 , R_3 indicate successful usage of the system by a student, does it also indicate that he/she gets a higher mark than a student in runs R_6 or R_7 or R_8 ? The average marks obtained per student in each run is calculated and attempt is made to see its relation with the run position through a regression. The model used was

$$M_{Ri} = \alpha + \beta I + U_i$$

Where M_{Ri} is the average marks of a student in the run R_i , i is the number of run, α and β are constants with U_i as the random variable. The regression is made to see the association of the marks obtained in a run and the Number of the run.

In the above, if β is negative, it indicates that the marks decrease as one moves from R_1 to R_8 , indicating that the student who works towards getting into the runs which have high uncertainty-high performance also perform better than the high uncertainty-low performance students. On the other hand, if β is positive, the performance of the high uncertainty-low performance student is better. We define the system as success if β is negative. The marks obtained in the Ninth and Tenth classes are used in the analysis and are presented in the Chapter-V subjectwise and Schoolwise.

3.3 Data Processing required to assess the parental Characteristics.

The success or failure in adopting the system depends on the socio-economic conditions of the society. One way of studying the adoption of the system and its success is to analyse the system in the context of the size and character of the town in which the school is located. The project has taken three different schools in three different environments. In addition to the general environment, the project wishes to study the intra-school variations by taking the parental background of the students. For this purpose, the educational levels of fathers and mothers and the total income of the family were taken up for analysis.

The level of education is quantified by adopting the following scores.

Illiterate	=	0
Less than Metric	=	1
Metric	=	2
Graduate and Non-technical	=	4
Postgraduate and Technical	=	6

The scores are same for both the parents at the same level of education. The average scores giving the average level of education are worked out for each run in the subject school classification.

The level of income of the family which includes both father's and mother's income is also tabulated and the average level of total income is worked out for each run, in the subject-school classification.

The basic objective is to study whether the high level of parental education and parental income is associated with the former runs which has high uncertainty high performance or whether high uncertainty-low performance runs register a high parental education and high parental income. In other words, we want to see the association of parental education with the success, failure or indifference towards the system. The tabulated value of father's education, mother's education, and the family income are presented in Chapter-VI, subjectwise schoolwise in different runs and groups.

In addition to average values, an attempt to run regressions between the average level of education and the number of the run is made to get an idea of the association between the runs and the level of education or income. The model is as follows :

$$S_1 = \alpha + \beta I + V_1$$

Where

S_1 = Average level of the character
(Father's education, mothers' education,
total income in i th run).

i = Number of the run

V_1 = Random variable

α and β are constants.

In the estimated equation, if B is negative, then we can suggest that the father's education decreases as we move from R_1 to R_8 . In other words, father's education is positively associated with the success of the system. If the estimated equation has B which is positive, the suggestion is that as we move from R_1 to R_8 , the level of father's education too increases, which means the higher level of father's education is not associated with the success of the system. Similar suggestion can be drawn for the mother's education and for the income.

In addition to the regressions, we have tried to cross tabulate the data on the basis of run groups and the level of ^{rec} characters suggested above. This cross tabulation permits a stronger inference on the effect of increased value of the character on the success or failure of the system. For

example, we have allowed in the cross tabulation, increases in the father's education within the same run group to see whether the increase in the education affects the choice of the run group of the parents.

The regression results and the cross tabulations are given in the chapter-VI.

3.4 Representativeness of our sample with the class:

The data of all the students of the three schools could not be obtained due to several reasons. The data is obtained from the students who have completed their Ninth class and are appearing for the Tenth class in the same School. Some students joined the school in Tenth class and some of the Ninth class students of the school got transferred to some other schools, leaving a gap in the data. There are few students who did not co-operate with the investigator in getting the information of their parents. Thus our sample is reduced from 32 to 29 in Sambalpur and from 116 to 91 in Visakhapatnam and from 163 to 99 in Delhi. We tried to make two sets of comparison. The first was comparing the average marks in the Tenth class of our sample and the average marks of the Tenth class as a whole in the school for various subjects.

The second is the number of students getting 60 % and above marks in our sample and that of the class. These are presented in the table 3.1 and table 3.2. It will be noticed from table 3.1 that in Sambalpur, the averages of the selected sample and the whole class are very close and the three students left out of our sample have, at the most, lower marks than the class. In Visakhapatnam school, the averages are very close, the maximum difference being five marks in Mathematics. Here also the students that are left out of our sample have an average performance lower than our sample. More or less, the same is true of the Delhi School with a marks difference around six in Mathematics. Thus, on the basis of average marks and the closeness of the averages we can suggest that our sample is representative of the class in general and the bias, if any, is towards better students with higher marks.

Table 3.2., which gives the number of students getting 60 % or more marks also points towards the same inference of representative character of sample, except possibly in Delhi where the percentage of students is on higher side in our sample. Thus our selected sample seems to be representative of the class in general.

Table 3.1

Average marks per student in the Tenth Class Board Examination in the subjects in the selected sample and class as a whole.

Subject	Sambalpur	Visakhapatnam	Delhi
<hr/>			
English			
Selected Sample	65.72	70.41	76.38
Class as a whole	64.94	67.46	71.30
<hr/>			
Hindi			
Selected Sample	90.48	84.47	94.31
Class as a whole	90.06	82.02	81.23
<hr/>			
Mathematics			
Selected Sample	71.17	82.27	93.03
Class as a whole	70.56	77.26	86.21
<hr/>			
Science			
Selected Sample	75.83	81.81	92.44
Class as a whole	73.97	79.29	87.97
<hr/>			
Social Studies			
Selected Sample	84.04	85.43	85.17
Class as a whole	82.13	81.64	80.28
<hr/>			

Table 3.2

Percentage Number of students getting 60 % or more marks in the subjects in selected sample and class

Subject	Sambalpur	Visakhapatnam	Delhi
English			
Selected Sample	3.45	16.48	30.30
Class as a whole	3.13	12.93	25.14

Hindi			
Selected Sample	51.72	38.46	63.64
Class as a whole	50.00	37.07	56.83

Mathematics			
Selected Sample	34.48	45.05	58.58
Class as a whole	31.25	37.93	49.73

Science			
Selected Sample	27.59	30.77	53.54
Class as a whole	25.00	25.86	48.09

Social Studies			
Selected Sample	41.38	41.76	41.41
Class as a whole	37.50	36.20	28.42

Chapter-4

ASSESSMENT OF CONTINUOUS EVALUATION SYSTEM :

SHORT TERM SUCCESS

ASSESSMENT OF CONTINUOUS EVALUATION SYSTEM: SHORT TERM SUCCESS

4.1 Introduction.

Success of the system, as explained in earlier chapter, can be visualised at two levels; at one level is the short term success and at the second level is the long term success.

The system is said to be successful in the first level, which is also called a short term success, if majority of the students improve their performance with the increase in the level of uncertainty. This is a situation where a high uncertainty associated with high performance, is reported by majority of the students.

In terms of runs, a student is said to have successfully utilised the system if the student improves his performance in unit tests compared to projects and assignments; and in half yearly compared to unit tests and in annual examination compared to half yearly. The student is said to have failed to use the system if the reverse picture of the performance in annual examination being lower than the half yearly etc. takes place. Using this, we term the short term success as a situation where majority of the students use the system to get trained to face uncertainty.

Translating this in term of runs, if the majority of the students fall in R_1 , then the system is an unqualified success. On the contrary, if majority of students fall in R_8 , the system is a failure. But the reality, given a randomness of the marks obtained by a student in various constituents such extreme cases may not come. As a result, we have grouped the runs into three groups, the U group consisting of runs R_1, R_2, R_3 , where the general tendency is to show a tendency of increasing performance with increasing uncertainty; and F group consisting of R_6, R_7, R_8 runs, where the tendency is to show a declining performance with increasing uncertainty. The middle runs R_4, R_5 which show a randomness in the performance represent the I group. Considering the three groups, we can say the system is successful if majority of the students fall in U group; and a failure if the majority of them fall in F group. In the third case, they are indifferent to the system. The following section gives the subjectwise performance of the students.

The frequency distribution of students according to subjects and schools in the runs as well as the runs groups is given in table 4.1 and table 4.2 respectively. While calculating the percentages of frequencies in the three groups, they are rounded up into whole numbers.

4.2 English.

The relative frequencies registered in each run do not show similar pattern in the three schools. Sambalpur school and Visakhapatnam school show one pattern to some extent and Delhi School projects an entirely different pattern. Sambalpur and Visakhapatnam schools record higher frequencies in either R_4 or R_5 compared to the other runs. In Sambalpur School, eleven out of twenty-nine students, i.e. , around 38 % choose the run R_5 whereas in Visakhapatnam, a significantly large number of students choose the run R_4 . 67 students out of a total of 91 students totalling to 73.63 % preferred the run R_4 . In case of Delhi School, a clear pattern emerges with higher frequencies registering in the former runs R_2 , R_3 and R_4 .

Relative distribution among the three groups U, I and F also support the above patterns. Sambalpur and Visakhapatnam schools recorded single highest frequency in I group compared to U and F groups. In Sambalpur school, I group has 55 % students whereas U group has 28 % and F group has only 17 % students. In Visakhapatnam school, a very high percentage of students preferred I group. I group has 75 % of students whereas U group has 14 % and F group has only 11 % of

students present in the groups. But in Delhi school, single highest frequency is recorded in U group. U group records 49% whereas I group has 27 % and F group has only 24 % of students preferring that group. Higher frequency in U group indicates that students who opt for High uncertainty-High performance are more than students who opt for High uncertainty-Low performance, which gives an evidence for the short term success of the system in Delhi School.

From the above observations, one can infer that Delhi School is the only school among the three schools where the system seems to be successful in the short term. The system seems to be irrelevant in Sambalpur and Visakhapatnam Schools.

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4.3 Hindi.

Sambalpur School differs with Visakhapatnam and Delhi Schools regarding the relative frequencies in each run. In Sambalpur, higher frequencies are recorded in the latter runs whereas Visakhapatnam School and Delhi School recorded higher frequencies in the former runs. In Sambalpur, 11 out of 29 students prefer the run R_4 . Unlike Sambalpur School, there seems to be a concentration of students in the former runs in Visakhapatnam and Delhi Schools. In Visakhapatnam

School, 75 out of 91 students which means 82.42 % are in the former runs and in Delhi, 76 out of 99 which means 76.76% belong to former runs. Relative percentages in the three groups also reflect the same pattern. Sambalpur has single highest frequency recorded in F group. Visakhapatnam and Delhi Schools have highest frequencies recorded in U group. Visakhapatnam school has 49 % of students and Delhi school has 63 % of students preferring the U group.

One can infer, from the above observations, that the system seems to be successful in two schools namely Visakhapatnam and Delhi Schools; and in case of Sambalpur School, the system seems to be a failure.

4.4 Mathematics.

In case of Mathematics, a pattern similar to that of Hindi is repeated separating Sambalpur school from the other two schools. Sambalpur school recorded highest frequency in the latter runs and Visakhapatnam and Delhi schools recorded highest frequency in the former runs. There is even a concentration of students in the former runs in Visakhapatnam and Delhi Schools. In Visakhapatnam school, 59 students out of 91, that is 64.84 % are in the

former runs. In case of Delhi school, 67.67 % of students come under this category. Relative frequencies in the three groups also separate out of Sambalpur school. In Sambalpur, F group recorded 62 % students in that group which is the single highest frequency compared to the other two groups. U group has only 10 % and I group has 28 % students. In case of Visakhapatnam School, U group recorded 36 % which is the single highest frequency among the three groups. But in case of Delhi School, U group as well as I group record 39 % which is higher than that of F group; thus U group is not the only group which records high frequency in Delhi School.

From the above observations, one can infer that the system seems to be a failure in Sambalpur school and the system seems to be successful in Visakhapatnam school. The success of the system in Delhi school is ambivalent.

4.5 Science.

In Science, a similar pattern, as that of Hindi and Mathematics is repeated again, separating Sambalpur school from Visakhapatnam and Delhi schools. Sambalpur recorded highest frequency in the letter run R_5 compared to all the other runs. In Visakhapatnam and Delhi Schools, there is concentration of students only in one run namely R_4 which

is a middle order run. Out of 91 students in Visakhapatnam, 66 meaning 68.68 % of students preferred R_4 whereas 68 students out of 99 students preferred R_4 in Delhi School. Relative frequencies in the three groups also reflect the same pattern, separating Sambalpur School from the other two schools. In Sambalpur school, F group recorded 45 % of students in the group which is the single highest frequency compared to other two groups. Here U group as well as I group has only 28 % of students preferring these groups. But in case of Visakhapatnam and Delhi Schools, I group recorded highest frequency compared to U and F groups. In Visakhapatnam school, I group has 73 % and Delhi School has 70 % of students preferring these groups.

We can infer, from the above observations, that the system seems to be a failure in Sambalpur and the system seems to be irrelevant in Visakhapatnam and Delhi Schools.

4.6 Social Studies.

In Social Studies, Sambalpur and Visakhapatnam Schools project a similar pattern but here Delhi school differs from the two schools and presents a different pattern. Sambalpur and Visakhapatnam schools recorded highest frequency in the run R_4 which is a middle

order run. Sambalpur has 7 out of 29 students in this run and in Visakhapatnam school, 56 out of 91 prefer R_4 . In Delhi School, high frequencies are recorded in R_4 as well as R_7 . The relative frequencies in the three groups also show a similar pattern. Sambalpur and Visakhapatnam Schools recorded single highest frequency in I group compared to the other two groups. Sambalpur school has 45 % students and Visakhapatnam school has 62 % preferring the I group. In case of Delhi school, single highest frequency is recorded in F group. Here F group recorded 43 % and I group has only 35 % and U group recorded 21 % of students in the group.

One can infer, from the above observations, that the system seem to be a failure in Delhi school and the system become irrelevant in Sambalpur and Visakhapatnam schools.

4.7 Summary.

Relative position of success or failure of the system in the subjects in different schools is as follows:

In English, the system seems to be successful only in one school namely Delhi School.

In Hindi, the system seems to be successful in Visakhapatnam and Delhi Schools, but became a failure in Sambalpur School.

In Mathematics, the system seems to be useful in Visakhapatnam school but became a failure in Sambalpur School.

In Science, the system seems to be a failure in Sambalpur School and became irrelevant in the other schools.

In Social Studies, the system seems to be failure in Delhi School and became irrelevant in the other schools.

Observing the same results in each School,

In Sambalpur School, there is not even a single subject in which the system seems to be successful. But there are three subjects namely, Hindi, Mathematics and Science in which the system seems to be a failure.

In Visakhapatnam School, there are two subjects namely Hindi and Mathematics in which the system shows signs of success. Interesting aspect about this school is that there is no subject in which the system seems to be a failure.

In Delhi School, the system seems to be successful in two subjects namely English and Hindi, but there is one subject namely Social Studies in which the system is a failure.

In all, in Sambalpur School, there is no subject ⁱⁿ which the system is successful. In ~~Visakhapatnam School no subject in which the system is successful.~~ In Visakhapatnam school, there are two subjects namely Hindi and Mathematics in which the system seems to be successful and finally in Delhi School, there are two subjects namely English and Hindi in which the system seems to be successful.

The success of the system in subjects in the schools is shown below.

- | | |
|-------------------------|------------------------------|
| 1. Sambalpur School | no subject |
| 2. Visakhapatnam School | (a) Hindi
(b) Mathematics |
| 3. Delhi School | (a) English
(b) Hindi |

Table 4.1

Frequency distribution of Students according to subjects,
Schools and Runs.

School	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	Total
<u>ENGLISH</u>									
Sambalpur	0	3	5	5	11	3	0	2	29
Visakhapatnam	0	2	11	67	1	0	0	10	91
Delhi	0	25	23	22	5	7	0	17	99
<u>HINDI</u>									
Sambalpur	0	0	3	6	3	11	0	6	29
Visakhapatnam	0	15	30	30	3	5	1	8	91
Delhi	0	21	33	14	5	9	2	7	99
<u>MATHEMATICS</u>									
Sambalpur	0	0	3	6	2	12	2	4	29
Visakhapatnam	0	13	20	26	4	6	1	21	91
Delhi	0	16	23	28	11	6	4	11	99
<u>SCIENCE</u>									
Sambalpur	0	4	4	7	1	8	1	4	29
Visakhapatnam	0	0	17	66	0	0	2	6	91
Delhi	0	1	18	68	1	1	3	7	99
<u>SOCIAL STUDIES</u>									
Sambalpur	1	1	4	7	6	6	2	2	29
Visakhapatnam	0	0	21	56	0	1	0	13	91
Delhi	0	2	19	35	0	1	34	8	99

Table 4.2

Percentage distribution of students according to subjects,
School and run groups.

School	U	I	E	Total
<u>ENGLISH</u>				
Sambalpur	28	55	17	100
Visakhapatnam	14	75	11	100
Delhi	49	27	24	100
<u>HINDI</u>				
Sambalpur	10	31	59	100
Visakhapatnam	49	35	16	100
Delhi	63	19	18	100
<u>MATHEMATICS</u>				
Sambalpur	10	28	62	100
Visakhapatnam	36	33	31	100
Delhi	39	39	21	100
<u>SCIENCE</u>				
Sambalpur	26	28	45	100
Visakhapatnam	19	73	9	100
Delhi	19	70	11	100
<u>SOCIAL STUDIES</u>				
Sambalpur	21	45	34	100
Visakhapatnam	23	62	15	100
Delhi	21	35	43	100

Chapter-5

ASSESSMENT OF CONTINUOUS EVALUATION SYSTEM:

LONG TERM SUCCESS

ASSESSMENT OF CONTINUOUS EVALUATION SYSTEM: LONG TERM SUCCESS

5.1 Introduction.

In the previous chapter, it was noted that in some subjects, students, in majority are grouped in the U group, a group that indicates a high uncertainty-high performance of the student. This we ~~may~~ have termed as the short term success as the students are utilising the system to attain the objective of the system. However, the question that remains is whether by utilising the system the students are performing better i.e., getting more marks than those students who failed to use the system or those who are indifferent to the system. If the student of the U group performs better than the F group and I group, then we can say the system has succeeded in the long term also. Here we have the Ninth class marks and Tenth class marks to verify with.

To measure such success, the relative performance of students in terms of marks in each run in Ninth class as well as Tenth class is taken into consideration. If there is a negative relation between the marks and the Number of the run, which is represented by a negative value for the regression coefficient, that is if the marks decrease as one moves from R_1 to R_8 , the system can be seen as successful in

the long term. In addition to this, if U group reveals higher marks, higher than both I and F groups, this can be seen as providing a further evidence for the success of the system in the long term.

In this chapter, we thus present the average marks of the students in each run according to the subjects and School and the average marks in the three groups. Further, the results of the regression between the average marks in a run and the number of the run to see the association are also presented.

5.2 English.

The performance of the students in different runs which is given in Table 5.2 and presented graphically in the graph 5.2 refer to the total marks obtained by a student at the end of the Ninth class. Among the three schools, two schools seem to be having similar pattern. The schools namely Sambalpur and Visakhapatnam record a higher average marks in the runs R_5 and R_6 , which runs indicate the failure of the student to confidently face the uncertainty. In other words, students who have opted to increase their performance when uncertainty increases and belonging to the runs R_1, R_2, R_3

have a lower performance level compared to the other runs. Delhi School records a different performance compared to the other two schools. In Delhi School, the students in R_3 , R_4 record the highest marks compared to letter runs. The same can be seen in the regression equation fitted. For Delhi School, the regression coefficient is negative while for Sambelpur and Visakhapatnam Schools, the coefficients are positive indicating an increase in marks secured by the students as one moves from run R_1 to run R_8 . The differential performance between the schools can be sharply seen if we group the runs into three groups.

- (1) Group where the students perform better with increased uncertainty, called here after as useful group U. R_1 , R_2 , R_3 runs get into this group.
- (2) Group where the performance is indifferent, that is students' performance is not related with level of uncertainty, hereafter called I group. R_4 and R_5 runs come under this group.
- (3) Group where the performance decreases with increasing uncertainty, hereafter called F group. R_6 , R_7 , R_8 fall in this group.

The average marks of students in different runs in their Ninth class, and also Tenth class, average

the three marks in each groups percentage of Ist class students in each group are given in Table 5.2 . In addition, regression coefficients are also given in Table 5.2.

Sambalpur School records a higher average marks in the I group. But the F group's performance is higher than that of U group, higher by about 12 marks. The relation between U group and F group in Visakhapatnam School remains the same as that of Sambalpur School. In this school too, the F group has an average marks of 105.6 which is higher by 11 marks than U group. As expected, Delhi school records a higher mark in U group compared to F group in particular and even over I group. The U group F group difference is 8 marks. Thus among the three schools, Delhi School seems to be reporting the long usage of the system better than the other schools.

Interestingly, Tenth Class Board Examination results follow more or less the same pattern with Delhi indicating a success as far as the Continuous Evaluation System is concerned. Like the Ninth Class, Tenth Class results also show a higher performance in R_5 and R_8 in both Visakhapatnam School and Sambalpur School while in Delhi School, it is the R_3 run together with R_4 which record higher performance. The regression coefficients also tell the same

story with Sambalpur and Visakhapatnam schools showing a positive association, but Delhi School registering a negative association.

Among the three groups also, Sambalpur School records a higher average mark in I group. Here also, the F group performance is higher than the U group though higher only by 3 marks. In Visakhapatnam School, F group records the highest marks among the three groups. F group recorded an average mark of 82 and U group recorded 76 ; the U group F group difference being 6 marks. Delhi School seems to be reporting the long term usage of the system here also when compared to the other two schools. In Delhi, U group records higher average mark in U group compared to F group and also I group. U group recorded an average mark of 78.81 which is higher by 7 marks to that of F group. The regression coefficient also tell the same story with Sambalpur and Visakhapatnam Schools showing positive association, with Delhi registering a negative association.

The graphs presented in 5.2, show that the Delhi School registered a negative slope and also the observations also are close to the regression line unlike in Sambalpur and Visakhapatnam Schools.

The above observation point to an unmistakable suggestion regarding the usefulness of the system in Telhi as far as English is concerned, while the same thing can not be said of the other two schools. A further evidence is available in-addition to the average marks supporting the above conclusion. If obtaining a first class mark in Tenth class is an indication of success, the Delhi school records 33 % of the students obtaining first class in U group and 25 % in F group; Visakhapatnam school records 8 % in U group and 58 % in F group. Sambalpur school records all the first class students in I group.

Thus, out of the three schools, Delhi School seems to be reporting the long term success of the system.

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Table 5.2

ENGLISH

Average marks of students according to runs and schools

School	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
<u>NINTH CLASS</u>								
Sambalpur	-	69.75	69.3	64.5	91.23	64.5	-	105.0
Visakhapatnam	-	98.25	93.68	92.40	117.0	-	-	105.6
Delhi	-	75.75	93.56	83.07	75.53	73.69	-	77.74

TENTH CLASS

Sambalpur	-	68.33	53.0	59.6	75.27	56.67	-	70.00
Visakhapatnam	-	84.5	74.45	66.94	114.0	-	-	82.0
Delhi	-	70.0	88.39	77.55	69.6	77.71	-	69.47

Table 5.2

Average marks of students according to run groups and Schools.

School/Class	U group	I group	F group	U group-F group
Sambalpur				
Ninth Class	66.813	82.875	80.7	-11.887
Tenth Class	58.75	70.37	62.0	- 3.25
-----	-----	-----	-----	-----
Visakhapatnam				
Ninth Class	94.385	92.76	105.6	-11.215
Tenth Class	76.00	67.63	82.0	- 4.0
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Delhi				
Ninth Class	84.28	81.30	76.56	+ 7.72
Tenth Class	78.81	76.07	71.87	+ 6.94

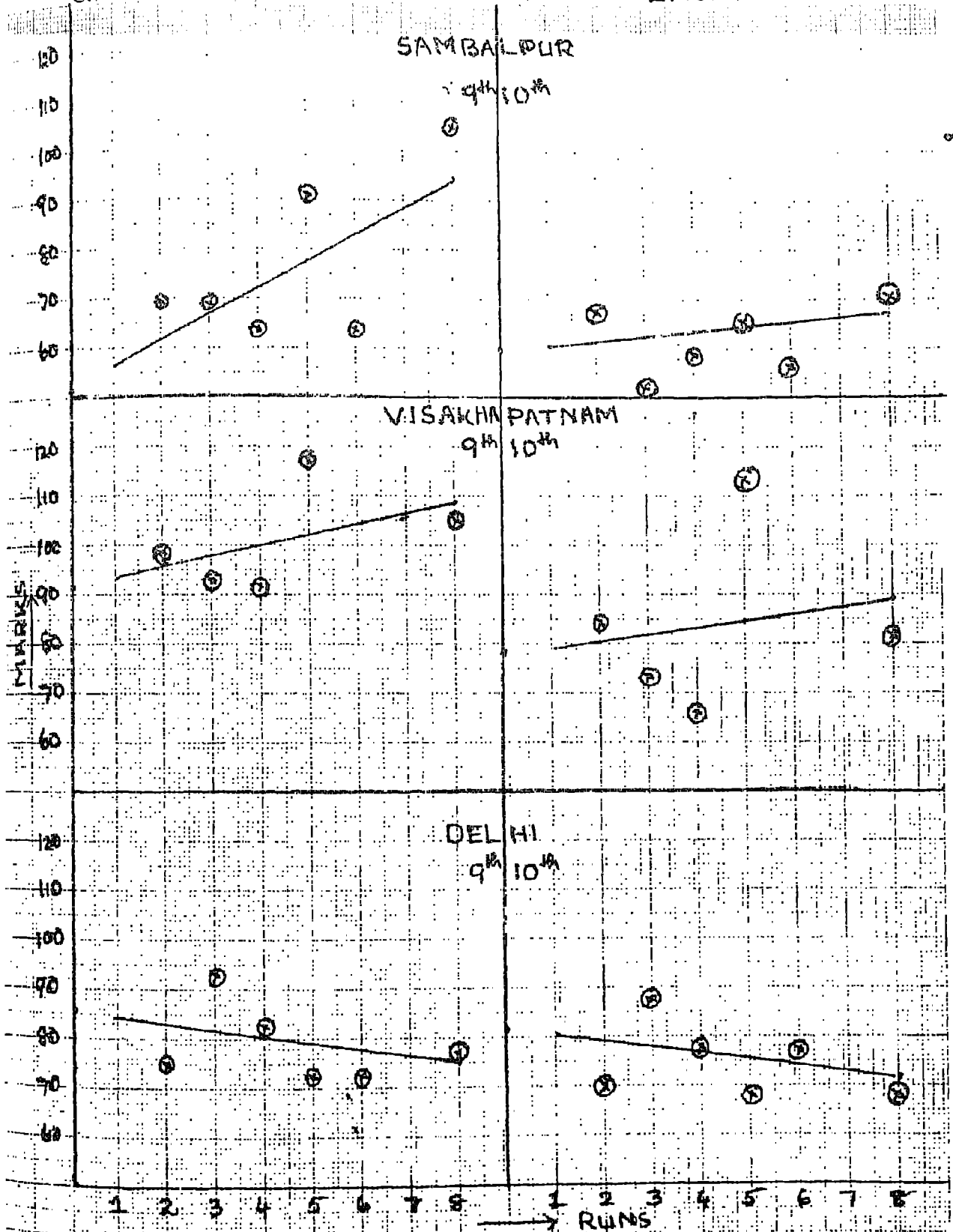
Percentage number of First Class students in the groups

School	U group	I Group	F group
Sambalpur	0	6	0
Visakhapatnam	8	13	50
Delhi	33	19	25

Regression Equation

School	<u>Ninth Class</u>		<u>Tenth Class</u>	
	α	β	α	β
Sambalpur	51.79	+ 5.3616	59.10	+ 1.0099
Visakhapatnam	91.75	+ 2.1909	78.19	+ 1.41
Delhi	85.89	- 1.3559	80.92	- 1.17

GRAPH 5.2. AVERAGE MARKS IN ENGLISH



5.3 Hindi.

The performance of students in Hindi presents a pattern similar to that of English in all the three schools. All the relevant information regarding the performance of the student in Ninth and Tenth classes is given in Table 5.3 and are presented graphically in graph 5.3.

The two schools, namely Sambalpur and Visakhapatnam schools recorded a higher level of average marks in the latter runs, that is in either R_5 or R_6 , which runs indicate the failure of the student to face the uncertainty successfully. Sambalpur school recorded higher average marks in R_5 and R_6 whereas Visakhapatnam school has higher marks in R_5 and R_7 . But in case of Delhi School, the marks recorded in the former runs R_1 , R_2 , R_3 are higher than the marks in other runs, indicating the students who got the advantages of the system got higher marks than the rest of the students, a clear case of long term success. The regression coefficients also support this result. Sambalpur school and Visakhapatnam school have positive value for regression coefficient. Delhi school has a negative regression coefficient indicating a decrease in the marks obtained

by a student as we move from R_1 to R_9 , suggesting the success of the system. The same picture emerges when one observe the performance of students in the three groups. Students in Sambalpur and Visakhapatnam schools recorded higher marks in F group over U group. In case of Sambalpur, the average marks of F group is higher than that of I group also. F group U group difference in marks is around 9 in case of Sambalpur school and only around 1 in case of Visakhapatnam. In Delhi school, U group recorded higher average mark compared to both F as well as I groups. Here U group recorded 101.84 marks which is higher by 9 marks when compared to F group. From the above observations based on the performance of the students in the Ninth class, one can suggest that the system seems to be useful in the long term in Delhi school in the subject Hindi.

However, the performance of the students in tenth Board examination did not follow the same pattern. In Delhi, unlike the performance in the Ninth class where higher performances are recorded in earlier runs, here in the Tenth class, higher performance is seen in R_5 , a run which shows the indifference towards the system, and also R_1 , a run indicating the success of the system. Sambalpur and Visakhapatnam schools repeat the performance with higher average marks in R_5 and R_9 . The regression coefficient has a negative value

only for Sambalpur school, and Visakhapatnam and Delhi Schools have a positive value for the regression coefficient, thus generating a doubt regarding the success of the system.

If the average marks in the three groups are considered, Sambalpur school and Delhi school record high average marks in U group. In Sambalpur School, U group recorded 93.00, which is higher by around 4 marks than F group. But in Delhi, U group recorded 94.14 whereas F group records 93.77 and there is only a nominal difference between them. In Visakhapatnam school, U group recorded higher marks than F group but the difference is almost negligible. Observing performance in the Ninth class and Tenth class together, Sambalpur school and Visakhapatnam school did not maintain the same pattern in both the classes, indicating that the effects produced by the system of continuous evaluation are not carried forward. Though Delhi School maintains the same pattern of getting more marks in U group than F group, the regression coefficient did not support the successfulness of the system, as it has a negative association with the number of ^{the} ~~run~~g.

The above observations suggest that the system as it is, is not successful in the schools. Though Delhi School showed signs of success in the initial stage, it could not maintain it until the end.

The number of first classes also show an indifference in the results. In Delhi School, more number of first classes are in I group. Delhi has as high as 79 % in this I group. In Visakhapatnam school, more number of first classes- around 50 % are in F group and Sambalpur school has more number of first classes - 67 % in both U and I groups.

One can suggest that the system of continuous suggest evaluation could not register a long term success in any one of the three schools.

Table 5.3

H I N D I

Average marks of students according to runs and Schools

School	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
<u>NINTH CLASS</u>								
Sambelpur	-	-	71.0	71.25	98.0	87.0	-	68.25
Visakhapa- nam	-	88.3	94.15	89.4	96.75	87.1	123.0	93.0
Delhi	101.68	98.04	103.03	94.70	91.89	91.03	94.68	93.6

<u>Tenth Class</u>								
Sambelpur	-	-	93.0	86.0	103.33	95.18	-	78.67
Visakhapa- nam	-	81.33	86.27	81.47	88.50	92.80	118.0	84.38
Delhi	100.38	91.86	94.09	95.36	95.4	91.0	106.0	93.86

Table 5.3

Average marks of students according to run groups and Schools

School/class	U group	I group	F group	U group- F group
Sambelpur				
Ninth Class	70.99	80.16	80.38	- 9.39
Tenth class	93.00	91.77	89.35	+ 3.65
Visakhapatnam				
Ninth Class	92.20	89.86	93.75	- 1.55
Tenth Class	84.62	81.90	83.78	+ 0.84
Delhi				
Ninth Class	101.94	95.41	92.46	+ 9.48
Tenth Class	94.14	95.36	93.77	+ 0.37

Percentage number of First class students in the groups

School	U group	I group	F group
Sambelpur	67	67	35
Visakhapatnam	40	28	50
Delhi	61	79	44

Regression Equation

School	<u>Ninth class</u>		<u>Tenth class</u>	
	α	β	α	β
Sambelpur	51.31	+ 5.3445	102.50	-2.1653
Visakhapatnam	83.49	+ 2.5514	75.40	+3.0
Delhi	105.0233	- 1.8299	95.11	+0.1948

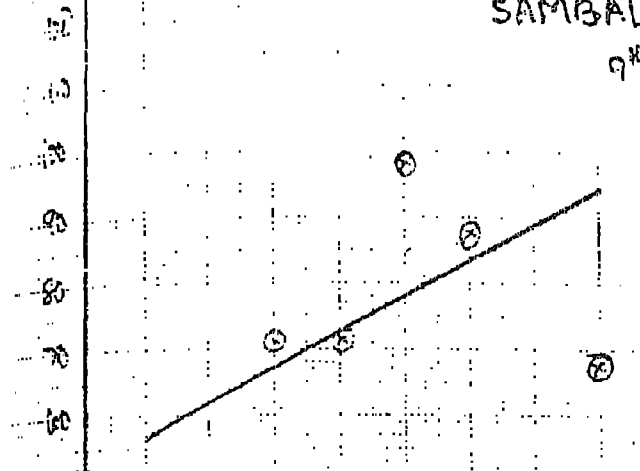
GRAPH 5.3

AVERAGE MARKS IN HINDI

87

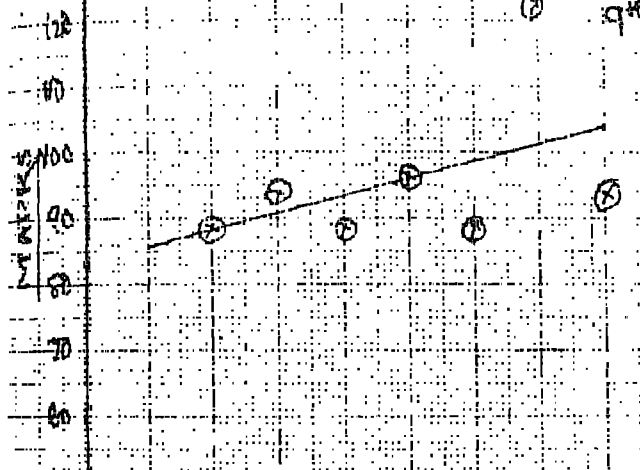
SAMBALPUR

9th 10th



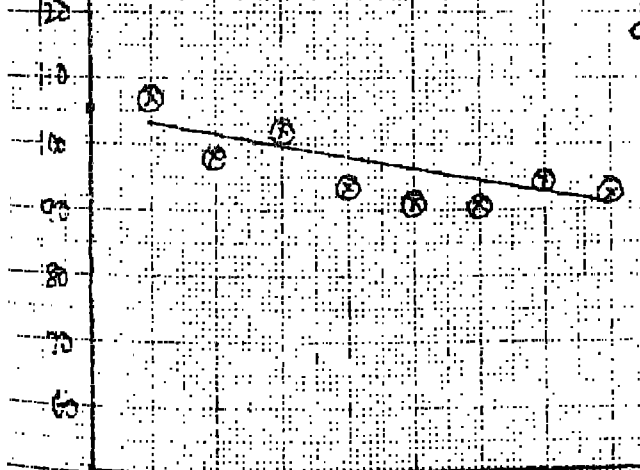
VISAKHA PATNAM

9th 10th



DELHI

9th 10th



1 2 3 4 5 6 7 8
RUNS

5.4 Mathematics.

Regarding the performance in Mathematics, unlike the performance in English and Hindi, here each school shows its own picture. All the relevant information regarding the performance of the students in Ninth and Tenth classes is given in Table 5.4 and is presented graphically in Graph 5.4.

In Sambalpur School and Delhi School, higher marks are recorded in both the former and also latter runs creating confusion about the success of the system. In Sambalpur school, R_5 , R_6 , as well as R_3 recorded higher marks compared to the other runs. In Delhi School, R_2 as well as R_7 and R_8 recorded higher marks. But Visakhapatnam school projects a picture of orderliness. The students in R_3 got higher marks and also students in R_6 got the lowest average marks. The behaviour of regression coefficients as well as average marks in U, I and F groups show the success of the system in Sambalpur School and Visakhapatnam School. In these two schools not only the regression coefficients show a negative association between marks and the number of the run, the performance of the students in U group is better than the performance of students in F group in particular and also better than that of I group. U group in Sambalpur School recorded 99 marks, which

is higher by 5 marks when compared to F group. U group in Visakhapatnam School recorded 94.59 which is higher by 16.8 marks. In case of Delhi School, the regression coefficient has a positive value and F group marks are higher than U group and also I group. F group recorded 104.38 marks which is higher by 5 marks than U group. As far as Ninth class performance is concerned, the system seems to be useful in Sambalpur and Visakhapatnam School.

However, the performance of students in the Tenth class Board Examination did not follow the same pattern. In Sambalpur school as well as in Delhi School, unlike the Ninth class performance, higher marks are recorded only in one run. R_6 in Sambalpur School and R_7 in Delhi School recorded higher marks compared to the other runs. But Visakhapatnam School, similar to the Ninth class performance, recorded higher marks in R_2 with the exception of R_7 . Regarding the regression coefficients both Sambalpur School and Visakhapatnam School show a negative association between marks and the number of the run, indicating that the marks decrease as one moves from R_1 to R_8 ; which means the system seems to be successful But the performance of students in the three groups U, I and F do not show a similarity. Visakhapatnam school recorded higher average marks in U group

compared to F and also I groups. In fact, the difference in marks between U group and F group is as high as 30 marks out of 150; thus making the Visakhapatnam School a most successful school in utilising the Continuous Evaluation System for the benefit of the students. Higher values of F group over U group in case of Sambalpur and Delhi Schools indicate the failure of the system in these two schools.

Comparing the performance of students in Ninth and Tenth classes in the three groups, we observe a reversal of trends in case of Sambalpur indicating that the effects of the system are not long standing. Delhi, though shows the same trend, recorded higher average marks in F group than U group and also I group, showing a clear evidence for the failure of the system. But in case of Visakhapatnam school, the same trend continued with students in U group securing higher marks than both F and also I groups both in Ninth and Tenth classes, indicating the success of the system in this school.

Similar trend can be seen when one observes the group in which percentage of students getting

first class marks are more in number, In Sambalpur school, higher percentage of first class students which adds to 50% ⁱⁿ are P group, Delhi has highest percentage first class students in I group as well as P group. only in Visakhapatnam school highest percentage of 61 % is recorded in U group.

The above observations can show that the system is very much useful in Visakhapatnam School.

Table 5.4

MATHEMATICS

Average Marks of Students according to run and Schools

School	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
<u>FIFTH CLASS</u>								
Sambalpur	-	-	99.0	82.50	106.50	106.5	90.75	58.71
Visakhapatnam	-	91.96	96.3	89.63	92.63	94.50	120.0	76.71
Delhi	-	110.5	91.4	93.77	98.07	91.87	105.79	110.63

TENTH CLASS

Sambalpur	-	-	73.0	61.67	71.0	91.75	70.0	23.0
Visakhapatnam	-	98.23	94.8	81.73	82.50	65.67	126.0	63.76
Delhi	-	96.13	85.87	89.58	99.73	92.84	120.5	95.46

Table 5.4

Average Marks of Students according to run groups and schools

School/Class	U group	I group	F group	Ugroup - F group
<u>Sambalpur</u>				
Ninth Class	99.0	88.50	93.83	+ 5.17
Tenth Class	73.0	64.0	75.05	- 2.05
<u>-----</u>				
<u>Visakhapatnam</u>				
Ninth Class	94.59	89.60	77.78	+ 16.8
Tenth Class	96.15	81.83	66.39	+ 29.76
<u>-----</u>				
<u>Delhi</u>				
Ninth Class	99.25	94.98	104.38	- 5.13
Tenth Class	90.07	92.51	99.47	- 9.74

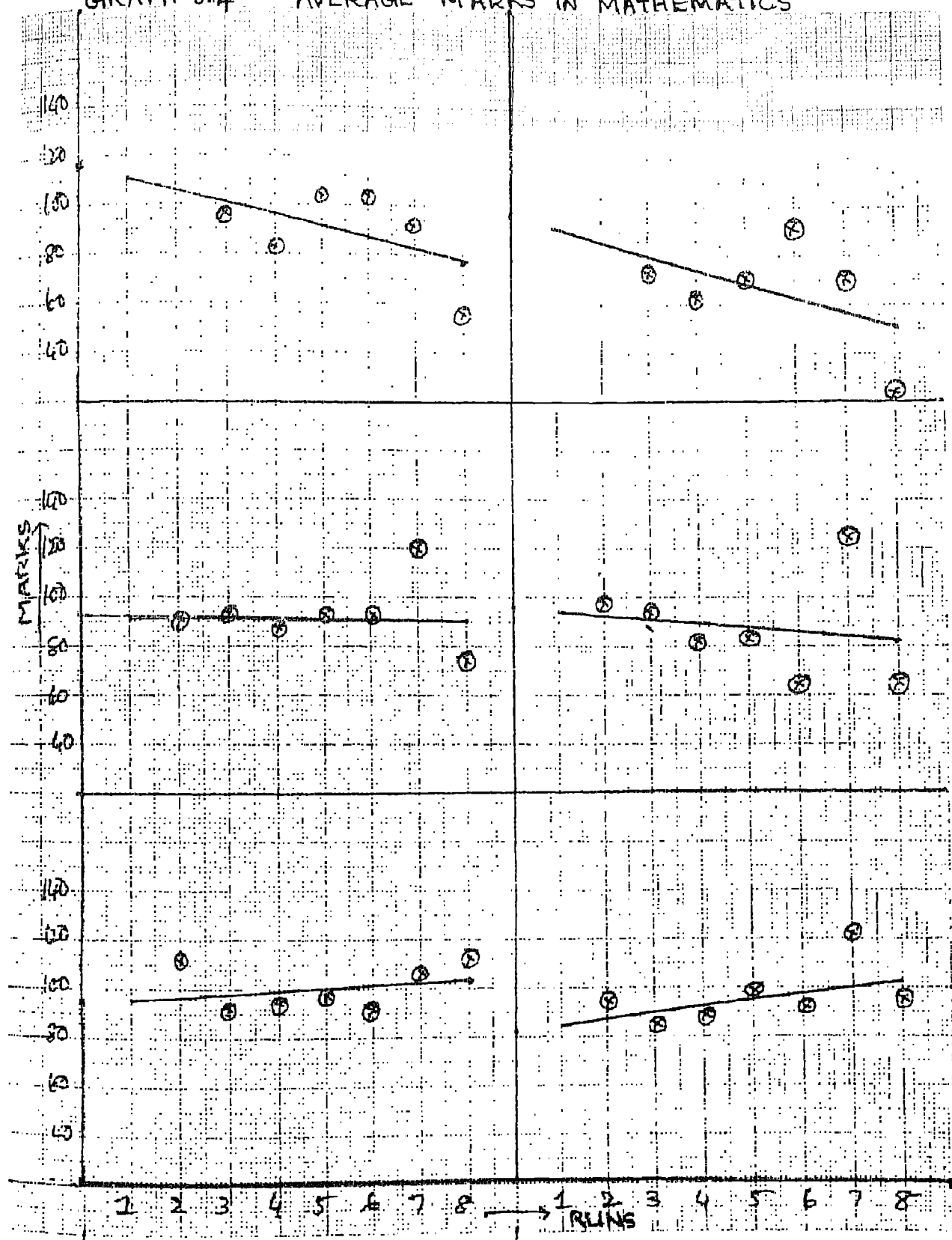
Percentage Number of First Class Students in the groups

School	U group	I group	F group
Sambalpur	33	0	50
Visakhapatnam	61	47	25
Delhi	54	62	62

REGRESSION EQUATIONS

School	<u>Ninth class</u>		<u>Tenth Class</u>	
	α	β	α	β
Sambalpur	118.32	- 5.0386	97.17	-5.8360
Visakhapatnam	93.92	- 0.4836	97.68	-2.032
Delhi	95.42	+ 0.9768	84.60	+2.5146

GRAPH 5.4 AVERAGE MARKS IN MATHEMATICS



5.5 Science.

Regarding the performance of students in science in the three schools, a pattern similar to that of English and Hindi emerges here also; with Sambalpur and Visakhapatnam Schools providing a similar pattern to some extent and Delhi School differing from it. All the relevant information regarding the performance of the students in Ninth and Tenth classes is given in Table 5.5 and is given graphically in graphs 5.5.

In Sambalpur and Visakhapatnam Schools, higher average marks are obtained by students in runs R_7 or R_8 , which runs indicate the failure of the student in getting the advantages of the system. But Delhi School projects an opposite picture recording higher average marks in the former run R_2 , R_3 and R_4 , compared to the other runs. The same pattern is supported by the regression coefficients also. Regression coefficients in case of Sambalpur and Visakhapatnam Schools have a positive value. But in case of Delhi School, regression coefficient has a negative value, indicating the decrease in marks of the student as one moves from R_1 to R_8 . This differential levels of performance can be seen in the average marks in the three groups also. Sambalpur school and Visakhapatnam school got more marks in F group than U group

and also I group. Here F group recorded an average marks of 84.31 which is around 5 marks more than U group. Visakhapatnam School secured 100.50 marks in F group which is higher by 8 marks than U group. But in Delhi School, U group recorded more marks than both F and I groups. Here U group secured 92.85 marks which is around 13 marks higher than F group. From the performance of the students in Ninth class in the three school, one can conclude in clear terms that among the three schools, the Continuous Evaluation System seems to be useful in Delhi School.

The performance of students in the Tenth Board Examination, Delhi School follows a similar pattern as of the previous year by recording better performance in the former runs, obtaining higher average marks in the runs R_2 and R_3 , indicating that the system is continuing its usefulness in Tenth Class also. Sambalpur School also maintains the similar pattern of the previous year. Higher average marks are recorded in the latter runs of R_7 and R_8 . But Visakhapatnam School changes the pattern of Ninth class. Here higher marks are recorded in the runs R_3 and R_4 with an exception of two students in R_7 . The regression lines fitted shows a negative slope for Visakhapatnam school and Delhi School, indicating a decrease in marks as one moves

from R_1 to R_8 . The performance of students in three groups also support the result. In Sambalpur School, the students in the U group got less marks than F group and also I group. On the other hand, in Visakhapatnam school and Delhi School, the average marks in U group is higher than both F and also I groups. Visakhapatnam School recorded 86.70 marks in U group which is 14 marks more than F group. Delhi School recorded 97.05 marks in U group and this is higher than F group by around 13 marks.

Comparing the behaviour of the three schools in the three groups in both the classes, there is a reversal of trends in Visakhapatnam School indicating that the effects produced by the system are not continued. In Sambalpur school, the effects produced by the non utility of the system is continuing ; with students belonging to failure group getting more marks than the students belonging to useful group. In Delhi School, the same trend of useful group getting more marks than failure group continued in tenth class also; thus providing an evidence infavour of Delhi School regarding the success of the system.

If the percentage of students getting first classes in the group is taken as an indication of success

of the system, then Sahelpur school records higher percentage of first classes in F group, and Visakhapatnam School records high percentages of first classes in U group. Delhi School records almost equal percentages in the three groups.

The above observations show us that the system is very much useful in Delhi School.

Table 5.5SCIENCE

Average Marks of Students according to runs and Schools

School	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
<u>NINTH CLASS</u>								
Sambalpur	-	78.58	80.13	77.14	67.0	77.56	103	93.13
Visakhapat- nam	-	-	91.76	90.84	-	-	116.25	95.25
Delhi	-	90.3	90.48	90.15	60.15	120.3	81.0	78.93

TENTH CLASS

Sambalpur	-	70.50	76.25	71.29	54.0	76.0	91.0	90.0
Visakhapat- nam	-	-	88.71	80.88	-	-	116.5	60.84
Delhi	-	123.0	95.62	92.92	62.0	94.0	92.34	79.43

Table 5.5

Average Marks of students according to run groups and schools

School/ Class	U group	I group	F group	U group-F group
Sambelpur				
Ninth Class	79.50	75.93	84.31	- 4.81
Tenth Class	73.37	69.12	81.46	- 8.09

Visakhapatnam				
Ninth Class	91.76	90.84	100.50	- 8.24
Tenth Class	88.70	80.87	74.75	+13.95

Delhi				
Ninth Class	92.85	89.72	80.07	+12.78
Tenth Class	97.05	92.46	84.27	+12.78

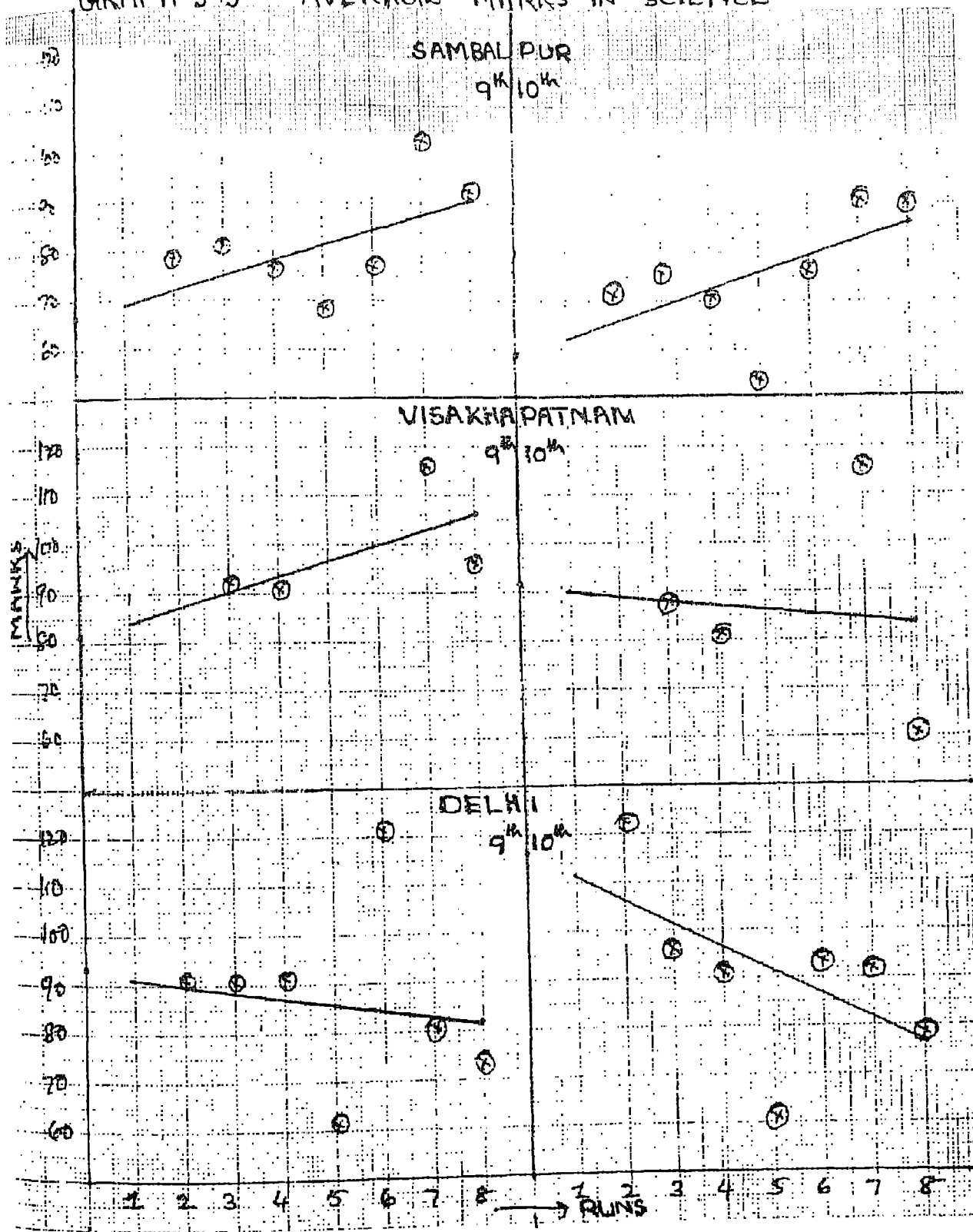
Percentage Number of first class students in the groups

School	U group	I group	F group
Sambelpur	25	12	38
Visakhapatnam	41	29	25
Delhi	53	55	55

REGRESSION EQUATIONS

School	Ninth Class		Tenth Class	
	α	β	α	β
Sambelpur	66.5287	+3.1754	59.02	+3.311
Visakhapatnam	81.1384	+3.111	91.99	-0.9556
Delhi	93.3872	-1.3543	115.65	-4.86

GRAPH 5.5 AVERAGE MARKS IN SCIENCE



5.6 Social Studies.

Regarding the performance of students in Social Studies in the three Schools, a pattern similar to that which emerged in case of Mathematics emerges here also. All the relevant information regarding the performance of the students in Ninth and Tenth classes is given in the table 5.6 and is given graphically in graph 5.6.

In Sambalpur, higher marks are obtained in R_5 , a run which points indifference towards the system. In Visakhapatnam School, all the 91 students are distributed only in four of the eight runs. In these runs, substantially higher marks are recorded in one of the former runs namely R_3 . Delhi School, here also presented an interesting picture of recording higher average marks both in the former and latter runs resulting in ambiguity about the success of the system. These runs are R_2 and R_3 on the one side and R_6 and R_7 on the other side.

However, the regression lines fitted between the runs and the marks, show a negative association for all the three schools. All of them follow a similar pattern where the marks decrease as we move across the runs from R_1 to R_8 . But the average performance of the three Schools in three

groups show a different result. In Sambelpur school, the difference between the marks of U and F groups is very minimal with students in F group having a small edge over the students in U group. Incidentally, the students belonging to I group recorded the highest marks. In Visakhapatnam and Delhi Schools, students in U group registered higher marks, higher than both F and I groups. In Visakhapatnam School the difference between U and F groups is as high as 23 marks whereas in Delhi School the difference is around 5 marks. From the above observations regarding the performance of students in Ninth class in the three schools, Continuous Evaluation System seems to be successful in only one school namely Visakhapatnam School.

The performance of students in their Tenth Board Examination follow a similar pattern to some extent, with only Visakhapatnam School showing signs of success with respect to the system of continuous evaluation. Visakhapatnam School registered higher marks in the run R_3 . Sambelpur recorded higher marks in R_5 (higher marks in R_1 is not taken into account as there is only one student in this run). Delhi maintains the same ambiguity because the students in R_2 and also R_6 and R_7 recorded higher marks.

However, the regression coefficients, unlike the Ninth class, show a negative value for only two Schools namely Sambalpur School and Visakhapatnam School, and a positive value in case of Delhi School pushing the ambiguity regarding the success of the system towards failure of the system. The performance of the students in three groups confirm the results. In only Visakhapatnam School, U group recorded higher marks than both F as well as I groups. In fact, students in the U group recorded 104.57 marks which is much higher than the F group, the difference is as big as 33.43 marks out of 150.

Comparing the behaviour of three Schools in the three groups in Ninth as well as Tenth classes, there is a reversal of trends in case of Sambalpur and Delhi Schools, indicating that the effects produced by the system are not continued. But in Visakhapatnam School, the same trend of useful group getting more marks than the failure group continued in the Tenth class also, which provides an evidence in ~~favor~~ favour of Visakhapatnam School regarding the success of the system.

If the percentage of students getting a first class in that group is also considered as an indication of success of the system, Visakhapatnam School recorded

81 % in U group, indicating that the students in U group are more successful. Sambalpur recorded high percentage of 62 % of 1st classes in I group and Delhi recorded high percentage of first classes in F group.

The above observations show with absolute certainty that the system is very much successful in Visakhapatnam School.

Table 5.6SOCIAL STUDIES

Average Marks of students according to runs and schools

School	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
<u>NINTH CLASS</u>								
Sambalpur	85.5	69.0	61.88	65.14	106	71.0	66.0	64.8
Visakhapa- tnam	-	-	113.79	97.53	-	78.3	-	90.81
Delhi	-	105.30	106.59	88.70	-	117.5	102.13	96.86

TENTH CLASS

Sambalpur	115.0	75.0	76.5	74.29	106.34	60.34	65.5	70.5
visakhapat- nam	-	-	106.58	80.58	-	65.0	-	73.77
Delhi	-	82.0	85.85	80.40	-	87.0	89.33	86.0

Table 5.6

Average Marks of Students according to run groups and Schools

School/class	U group	I group	F group	U group- F group
Sambalpur				
Ninth Class	67.00	84.00	67.50	- 0.50
Tenth Class	82.66	89.07	75.40	+ 7.26
Visakhapatnam				
Ninth Class	113.79	97.53	90.64	+23.15
Tenth Class	106.57	80.57	73.14	+33.43
Delhi				
Ninth Class	106.47	88.77	101.50	+ 4.97
Tenth Class	85.95	80.40	88.65	- 2.70

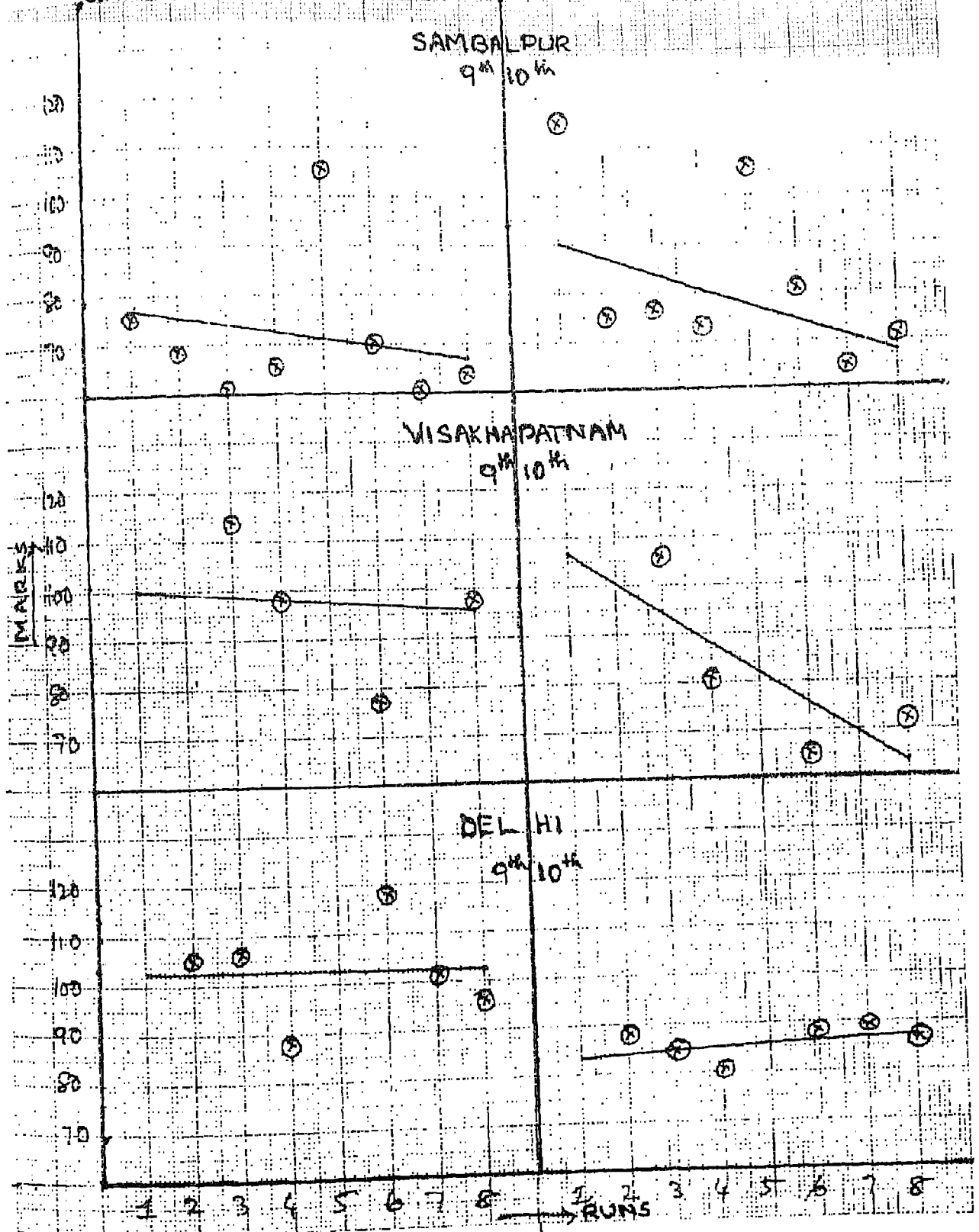
Percentage Number of first class students in the groups

School	U group	I group	F group
Sambalpur	33	62	20
Visakhapatnam	81	32	29
Delhi	38	26	47

REGRESSIONS EQUATION

School	Ninth class		Tenth Class	
	α	β	α	β
Sambalpur	79.51	-1.4735	94.73	-3.4153
Visakhapatnam	101.78	-0.7852	113.13	-6.0280
Delhi	103.818	-0.1961	84.04	+0.3771

GRAPH 5.6 AVERAGE MARKS IN SOCIAL STUDIES



5.7 Summary.

Continuous Evaluation System does not seem to be a success in the long term either in all the subjects in one School or any one subject in all the three schools. Long term success of the system is found in different subjects in different schools.

In English, the system is successful in Delhi School.

In Hindi, there is no school in which the system is successful in the long term.

In Mathematics, system is successful in Visakhapatnam School.

In Social Studies, visakhapatnam School is successful in the long term.

Looking the same results, Schoolwise

In Sambalpur there is not even a single subject in which the system is successful.

In Visakhapatnam there are two subjects namely Mathematics and Social Studies in which the system is successful.

In Delhi, there two subjects namely English and Science in which the system is successful in the long term.

Chapter-6

PARENTAL CHARACTERISTICS

PARENTAL CHARACTERISTICS

Introduction.

In the previous chapter, we tried to assess the success of the system by studying the performance of the students recorded in various runs, and also taking into consideration the distribution of students utilising the system. The system permits different usages with each run indicating a particular usage of the system. In this chapter, we will analyse the parental characteristics of children utilising the system and study the relationship between the parental characteristics and the different usages of the system.

As detailed earlier, there are eight possible usages of the system, and these we called the runs. For purposes of simple comparison, these usages are grouped into run groups U I and F. The parental characteristics are fathers' level of education, mothers' level of education and total income of the family. It is quite natural to assume that higher the level of the education of the fathers, higher is the utilisation of the system. This is due to the infrastructural inputs being available to the student through the fathers' education and also due to the suggestion that higher education

of the father might lead to better evaluation of the reforms in the education, and a better usage of the system. In simple terms, more educated a father is, the more the father supplements supervises and provides the necessary inputs to the ward so that the ward continues to perform better.

Similarly and most importantly, mothers' education may also help in the same process. The commonly floated slogan -A boys' education is limited to the boy only, while a girls education means a whole family's education highlights the importance of the women's education. Given the importance of women's education and the role it plays in the family education, one possibility of these generalisations is the fathers being occupied in their jobs, have lesser time for their children, while the mothers, though educated, are generally acting as housewives only, have greater time to spend on their children. In our study, as indicated in the second chapter, though the level of education is high, the number of working mothers are few. Like father's education, mothers' education also helps as an input towards performance of the student. It is natural to expect that higher the mother's education, higher is the success of the system. In other words, one would expect higher level of mother's education in the U group runs compared to the F group and I group runs.

Similarly, the income level of parents do help in providing the necessary infrastructure. This is likely to be more helpful, if at the parental level, the higher education higher income correlations causation exist or such a conception exists.

Taken together, we have tried to analyse the three characteristics of the parents to study the behaviour of the characteristics over different usages of the system. We can formulate the following hypothesis.

- (a) Higher the level of education of the father, higher the usage of the system. Put it differently, higher usage of the system indicates an association with higher levels of education. Translated into runs, the hypothesis is that as one moves from R_1 to R_8 , the average level of education of father decreases.
- (b) Higher, the level of education of mothers, higher will be the usage of the system. In otherwards, higher usage of the system indicates an association with higher levels of education. Again, when translated into runs, the hypothesis is that as one moves from R_1 to R_8 , the average level of education of mother decreases.

- (c) Higher the level of total income of the family, higher will be the usage of the system. In other words, higher usage of the system indicates an association with higher levels of education. Again, when translated into runs, the hypothesis is that as one moves from R_1 to R_8 , the average level of total income of the family decreases.

6.1 Sambalpur School.

It may be recalled that the School at Sambalpur records higher levels of education and income compared to the school at Visakhapatnam. The levels in Sambalpur School are only nominally lower than the School at Delhi. In terms of fathers' education, the average fathers' education is 4.32 and 76 % of fathers are educated upto graduation and above. 45 % of fathers are Postgraduates. The average level of mothers' education is 1.96 and mothers educated upto Metric and above add up to 55 % and only 7 % of them are illiterate. Average level of parental income of our sample is Rs.2013 per month and 48 % of parents are in the high income group earning Rs.2000 and above per month.

Given the higher levels of education and income, the question naturally revolves around the ~~para~~ preferences of the parents in terms of their wards choosing the runs for each of the subject. The subjectwise average level of

education of fathers in each run, the averages for the three groups and the corresponding regression coefficients are presented in Table 6.1, the relevant information regarding the mothers' education is given in Table 6.2 and the relevant information regarding the total income of the parents is presented in Table 6.3.

6.1.1 Fathers' Education.

Regarding the association of level of fathers' education with the usage of the system, all the five subjects do not have a same pattern. The subjects English and Hindi behave in one way, Science and Social Studies present a different picture while the subject Mathematics turn out to be a third variety. English and Hindi, the language subjects, record a lower level of fathers' education in the former runs R_1 , R_2 and R_3 compared to the other runs in general. Among the three groups U, I and F, the average fathers' education recorded in English in the first group U turns out to be 3.625 while in the F group, the average is 4.0. Similarly Hindi too records generally higher level of fathers' education in F group. On the otherhands, Science subject recorded higher level of fathers' education in the runs R_2 and R_3 compared to the runs R_6 , R_7 and R_8 . Social studies also present a similar picture. In case of Mathematics, however I group runs give higher values for fathers' education.

Taking the five subjects together, it can be suggested that higher fathers' education does not lead towards the students choosing a successful run or run group. The evidence does suggest that in the language subjects, higher fathers' education does not serve as a useful input in the choice of the words, while there is evidence to suggest that the same does help in Science and Social Sciences.

The regression coefficients too tell the same story, however the coefficients are not statistically significant. For the two language subjects, the sign of the coefficient is positive suggesting a higher level of fathers' education as one moves along the runs R_1 to R_6 . For the subjects Science and Social Studies, the sign of the regression coefficient is negative. For Mathematics, the sign is negative and the coefficient is also high compared to all the subjects but the high coefficient is due to the high values in the middle I group and very low values in the F group.

Cross tabulating the data according to different levels of fathers' education, one can read the influence of fathers' education on the differential usage of the system. Table 6.1.1. A gives the percentage number of students in different run groups according to the level of fathers' education. If we take, for example, English, the table indicates

that in the fathers' education of score 1.33 % of the students belong to U group and 66.66 % belong to I group. Further, as one moves down the increased fathers' education, that is, score 1 to 6, we notice no consistent pattern of increasing percentage. In other words, an increased fathers' education does not necessarily mean a successful usage of the system. On the other hand, most of the parents seem to belong to the indifferent group, irrespective of the level of fathers' education. In case of Hindi, the observation that can be made was that most of the parents have their wards in the failure group and the increased education does not seem to alter the situation. With fathers' education level of 1, we have 66.66 % of wards in F group and with parents educational level of 6, we have again 69 % of their wards in F group. The situation is slightly different with Mathematics. Here too, the majority of the students belong to the F group, but the higher level of fathers' education is indicating a shift of the wards from F group to I group. The percentage of students in the I group shows an increase with level of fathers' education along with a corresponding decrease in F group. In case of Science, there is no consistent pattern, though the higher levels of fathers' education does indicate a better utilisation of the system as 38 percent of parents with a level of fathers' education at score 6 report their wards in U group. In case of social studies, majority of the wards -- -- -- --

fall in the I group and there is no clear tendency for successful usage to increase with higher levels of fathers education.

Table 6.1.1
Average level of fathers education in each run and run group indifferent subjects in Sambalpur School

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	I group	F group
English	-	3.67	3.6	3.2	5.45	4	-	4	3.625	4.75	4
Hindi	-	-	3.0	4.33	4.67	4.46	-	4.5	3.00	4.44	4.47
Maths.	-	-	4.67	5.0	5	4.59	3	2.50	4.666	5.0	3.94
Science	-	4.5	5.0	3.86	4	4.5	4	4	4.75	3.875	4.308
Social Studies	6	4	4.5	3.43	5.66	3.86	4	4	4.666	4.46	3.9

REGRESSION COEFFICIENTS
Subject Regression coefficients

English	+	0.1069
Hindi	+	0.2323
Maths.	-	0.4932
Science	-	0.1022
Social Studies	-	0.1637

Table 6.1.1A

percentage number of student indifferent run groups at
each level of fathers education in Sambalpur School

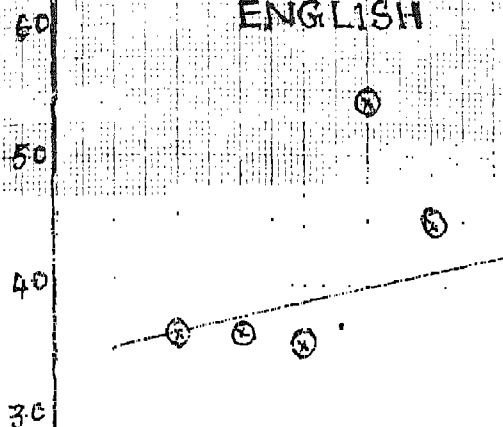
Score	U group	I group	F group
<u>ENGLISH</u>			
1	33.33	66.66	0
2	75.00	0	25.0
4	11.11	55.55	33.33
6	23.08	69.23	7.69
<u>HINDI</u>			
1	33.33	0	66.66
2	0	50.00	50.00
4	22.22	33.33	44.44
6	0	30.77	69.23
<u>MATHEMATICS</u>			
1	0	0	100.00
2	25.00	25.00	50.00
4	0	22.22	77.77
6	15.38	38.46	46.16
<u>SCIENCE</u>			
1	0	100	0
2	50.00	0	50.00
4	11.11	11.11	77.77
6	38.46	30.77	30.77
<u>SOCIAL STUDIES</u>			
1	0	66.66	33.33
2	25.00	25.00	50.00
4	22.22	33.33	44.44
6	23.08	53.84	23.08

GRAPH 6.1.1

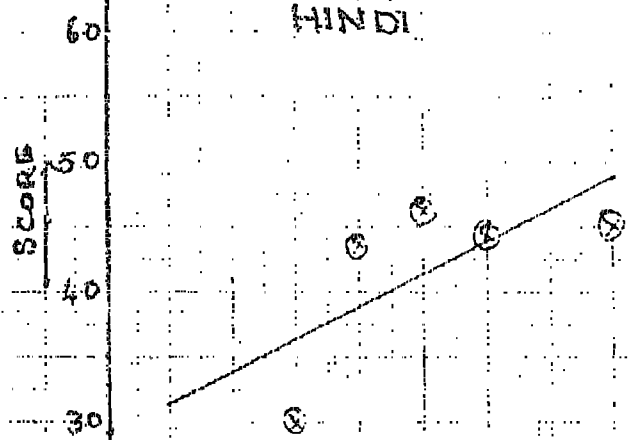
SAMBALPUR

FATHER'S EDUCATION

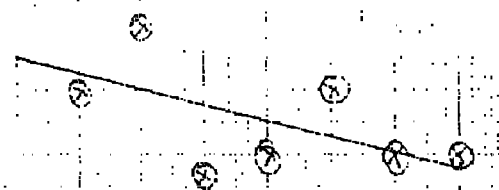
ENGLISH

X axis = Number of
the runY axis = Father's education
average score

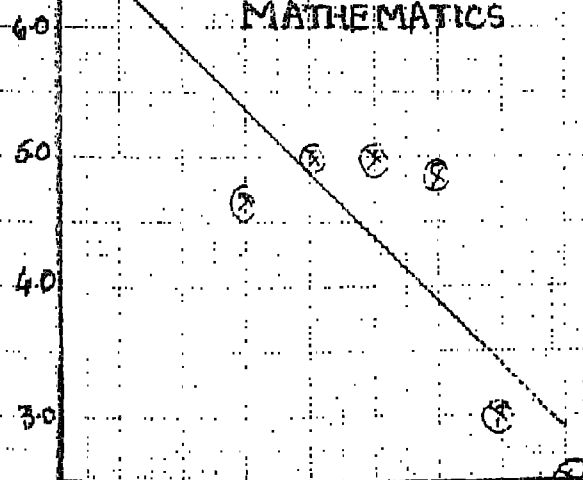
HINDI



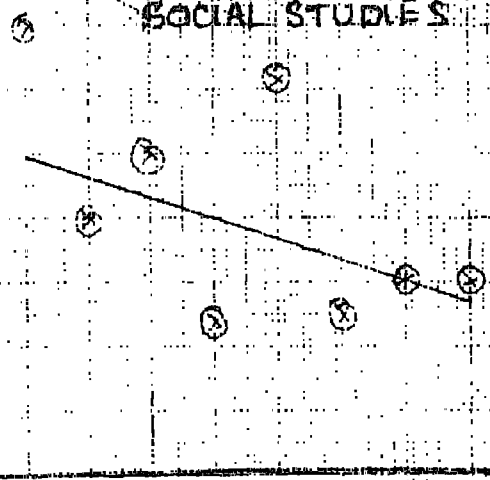
SCIENCE



MATHEMATICS



SOCIAL STUDIES



1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

RUNS

6.1.2 Mothers' Education.

Regarding the association of mothers' education with the usage of the system, all the five subjects do not have the same pattern. The two language subjects English and Hindi with an addition of Social Studies behave in one way, Science presents a different picture and lastly Mathematics shows the use of a third pattern.

English, Hindi record higher values of mothers' education in the runs R_4 and R_5 compared to the other runs in general. In the subject Social Studies, R_5 records higher levels of mothers' education compared to the other runs (with only one exception in the run R_1 where a lone member records a higher mothers' education). In Science subject, higher values of mothers' education are recorded in R_3 and R_6 . Lastly in Mathematics, higher mothers' education was not recorded in R_4 and R_5 like the rest of the subjects, but R_3 as well as R_6 recorded higher levels of mothers education. The distribution among the three groups U, I and F show that four subjects, namely English Hindi, Science and Social Studies record higher levels of mothers' education in I group than U and also F groups. Only in one subject, that is Mathematics, U group records the higher level of mothers' education, higher than both F and also I groups. In this subject the level of average mothers' education recorded

in U group is 2.333 where as F group records 2.0 and I group records 1.75 only.

Taking the five subjects together, one can say that higher levels of mothers' education does not necessarily help their children in choosing the successful run or run group. Out of all the subjects, there is some evidence in only one subject Mathematics to suggest that higher levels of mothers education does help their children.

However, the regression coefficients are negative in all subjects except English, Hindi is a subject where we have the highest negative value.

One can observe the strength of students in the three groups according to different levels of mothers' education to get some more evidence regarding the association of mothers enducation with the success of the system. Table 6.22 2A gives the percentage of number of students in different run groups according to the level of mothers' education. Of all the five subjects, only Mathematics present a different pattern. Three subjects namely English, Science and Social Studies show a similar pattern. Here at the zero level of mothers' education, 50 % of students are in U group which decreases and becomes zero at the last level 6. Not only this, the percentage number

of students in I group reaches a maximum of 100 at the level 6. In case of Hindi, the percentages in the three groups at remain the same at the level of 6 and zero. At the level 6, U group has a zero percentage while F group has 100 % of students in the group. Lastly, in the subject Mathematics, the situation is altogether different. At zero level of mothers' education, U as well as I group have 50 % of students in each group. Though the levels 2 and 6 have zero percentage, finally at the level 6, U group has 100 % of students. Here there seems to be a clear shift from I group to U group as we move down the table with the increasing levels of mothers' education.

Table 6.1.2A

Average level of mothers' education in each run and run group in different subjects in Sambalpur school									
Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	
English	-	1.33	1.2	1.6	2.73	2	-	1.5	1.25 2.375 1.8
Hindi	-	-	1.67	2.17	2.33	2.18	-	1.33	1.666 2.232 1.883
Maths.	-	-	2.33	1.67	2	2.33	1	1.50	2.333 1.75 2
Science	-	1.75	2.5	2.29	2	1.63	2	1.75	2.125 2.425 1.692
Social Studies	4	2	1.25	2.0	3.34	1.0	2	1	1.833 2.615 1.2

REGRESSION COEFFICIENTS	
Subject	Regression coefficients (b)
English	+ 0.0834
Hindi	- 0.41
Maths.	- 0.17
Science	- 0.05
Social Studies	- 0.24

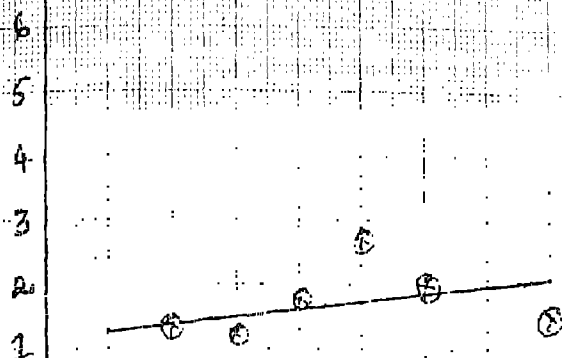
Table 6.1.2A

Percentage number of students in different run groups at each level of mothers' education in Sambalpur School.

Score	U group	I group	F group
<u>ENGLISH</u>			
0	50	50	0
1	36.36	36.36	27.27
2	20	60	10
4	0	80	20
6	0	100	0
<u>HINDI</u>			
0	0	0	100
1	9.09	36.36	54.55
2	20	20	60
4	0	60	40
6	0	0	100
<u>MATHEMATICS</u>			
0	50	50	0
1	9.09	18.18	72.72
2	0	40	60
4	0	20	80
6	100	0	0
<u>SCIENCE</u>			
0	50	0	50
1	9.09	36.36	54.54
2	40	20	40
4	40	20	40
6	0	100	0
<u>SOCIAL STUDIES</u>			
0	50	0	50
1	9.09	36.36	54.54
2	30	40	30
4	20	80	0
6	0	100	0

GRAPH 6.1.2. SAMBALPUR MOTHER'S EDUCATION

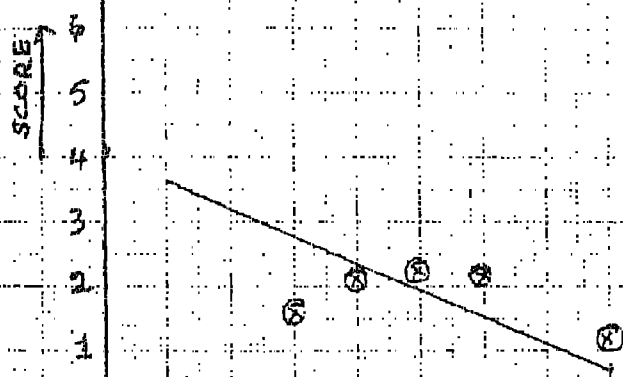
ENGLISH



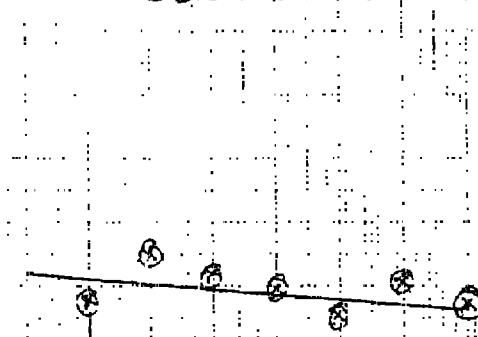
X axis = Number of
the run

Y axis = mother's education
average score

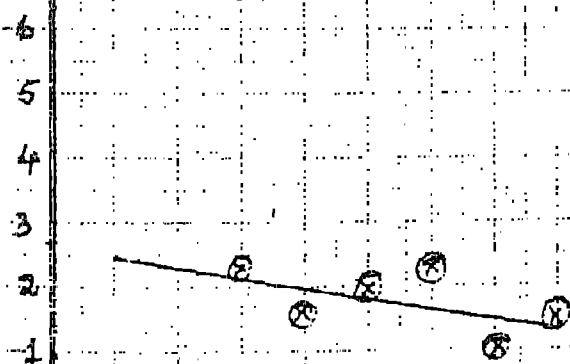
HINDI



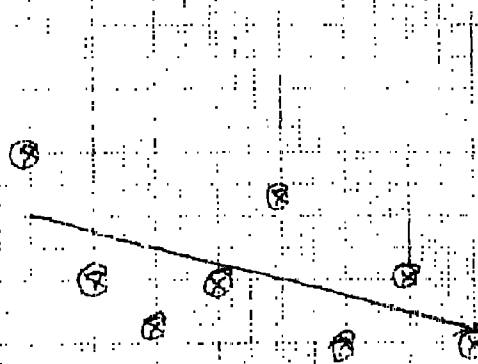
SCIENCE



MATHEMATICS



SOCIAL STUDIES



1 2 3 4 5 6 7 8 → RUNS

6.1.3. Total Family Income.

Regarding the association of total family income with the usage of the system, three of the five subjects namely English, Science and Social Studies, behave in one way, Mathematics show a different pattern and finally Hindi registers a third pattern.

In the subject Mathematics, the run R_3 , belonging to former runs, recorded higher levels of total family income compared to the latter runs in general. Hindi changes the trend by registering higher levels of income in the latter runs R_6 and R_8 compared to the former run R_3 . Income level recorded in former run R_6 is Rs. 2407 which is the highest income compared to all runs. The other three subjects English, Science and Social Studies record high levels of income in the run R_5 in general. Science subject recorded high incomes, in addition to R_5 , in the run R_2 as well as R_7 . In the distribution among the three groups U, I and F also, Mathematics stand out separately recording higher levels of income in U group compared to F group and also I group. U group recorded Rs. 2833 which is higher by Rs. 819 compared to F group. Reverse is the case with Hindi which recorded higher income levels in F groups. Here F group recorded Rs. 2191 which is high by Rs. 777 compared to U group. The other three

subjects, English, Science and Social Studies uniformly recorded higher levels of income in I group, higher than the income levels of both U and also F groups.

From all the above findings, it can be suggested that Mathematics is the only subject in which parents with higher income levels respond favourably to the system.

However, the regression coefficients are negative for two subjects Mathematics and English, with Mathematics recording a very high value of regression coefficient, which is -224.57.

Cross tabulating the data according to different levels of total income of the family, one can read the influence of total income of the family on the differential usage of the system. The picture that emerges is not very convincing. However, some inferences can be drawn from the above exercise. For example, in Mathematics, in the range (0-1000) of the income, U group has no students while I group has 25 % and F group has 75 % students in these groups. As we move down the table with increasing levels of income ; there is no clear pattern that emerges. But at the last level of income, that is Rs.3000 and above, the percentage in U

group increases to 25 and I group has zero percent and F group has 75 % of students in the group, which is like the first level. So one can infer that though there is no clear pattern in case of Mathematics, there seems to be an increase in the strength of U group, the shift is from I group since the strength in F group remains same. In Science, there seems to be an increase in the percentage strength of I group. At (0-1000) level, U group has only 20 % while I group and F group have 40 % strength in each group. With the increase in income levels, there seems to be a decrease in the strength of U and F groups .Correspondingly, there is an increase in the strength of I group. In the other three subjects, English, Science and Social Studies, there is an increase in the strength of I group with the increase in the income levels of parents. In English and Social Studies, the increase ⁱⁿ I group is from 20 % to 75 % which is quite substantial. In Science, though there seems to be an increase in I group, the increase is only from 40 % to 50 % which is nominal.

Table 6.1.3. Average level of Total family income in each run and run group in different subjects in Sambelpur School.

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	I group	F group
English	-	2000	1675	1400	2670	1583	-	1438	1797	2273	1525
Hindi	-	-	1417	1938	1750	2409	-	1772	1417	1875	2191
Maths.	-	-	2833	1583	2063	2344	1250	1406	2833	1703	2014
Science	-	2375	1469	2232	2250	1813	2750	1969	1922	2234	1933
Social Studies	2750	1625	1531	1607	3188	1458	1250	3125	1750	2337	1750

REGRESSION COEFFICIENTS

Subject Regression coefficients β

English -54.9475

Hindi +78.27

Maths. 224.57

Science *25X
+33.0356

Social Studies +25.1429

Table 6.1.3A.

Percentage number of students in different run groups at each level of family income in Sembalpur School

	U group	I group	F group
<u>ENGLISH</u>			
0 -1000	60	20	20
1000 -1500	16.66	50	33.33
1500 -2000	25	75	0
2000 -3000	20	60	20
3000 and above	25	75	0
<u>HINDI</u>			
0-1000	20	40	40
1000-1500	16.66	33.33	50
1500-2000	0	25	75
2000-3000	10	30	60
3000 above	0	25	75
<u>MATHEMATICS</u>			
0-1000	0	25	75
1000-1500	0	66.66	33.33
1500-2000	0	0	100
2000-3000	20	30	50
3000 above	25	0	75
<u>SCIENCE</u>			
0-1000	20	40	40
1000-1500	16.66	66.66	16.66
1500-2000	25	50	25
2000-3000	50	30	20
3000 above	0	50	50
<u>SOCIAL STUDIES</u>			
0-1000	20	20	60
1000-1500	33.33	50	16.66
1500-2000	25	25	50
2000-3000	20	50	30
3000 above	0	75	25

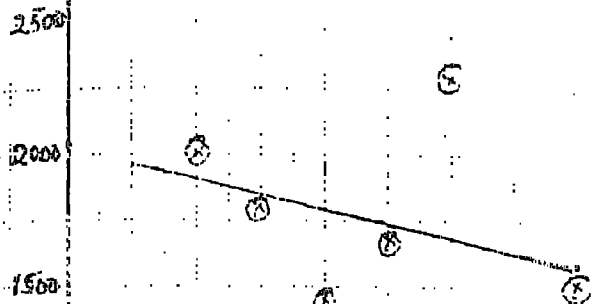
GRAPH 6.1.3

SAMBALPUR

TOTAL INCOME

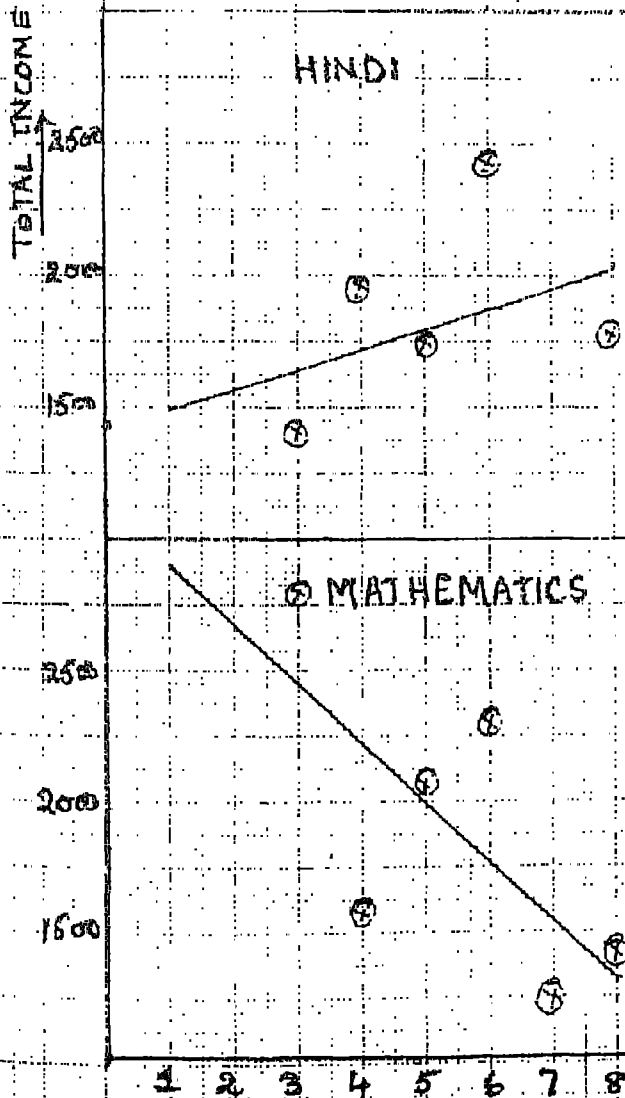
132

ENGLISH

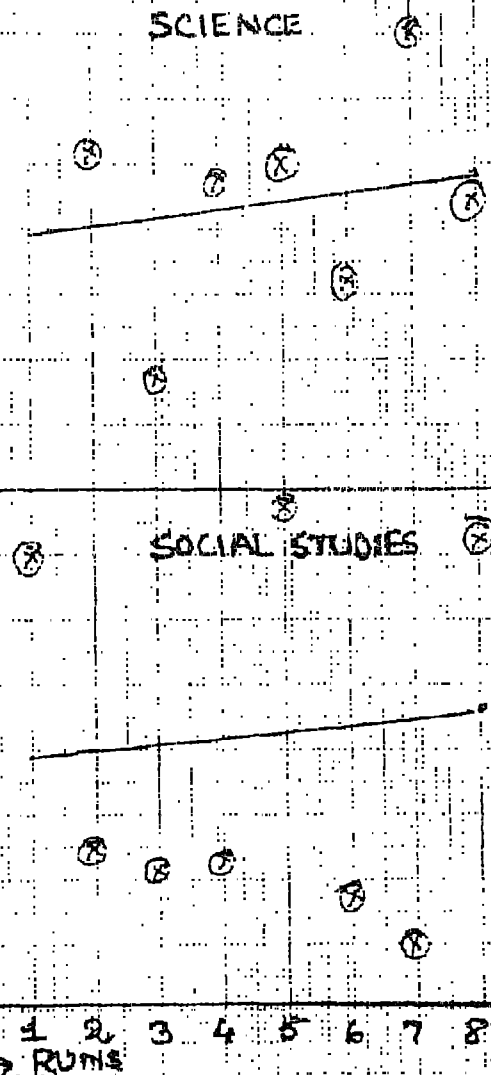


x axis = Number of
the run
y axis = Total income

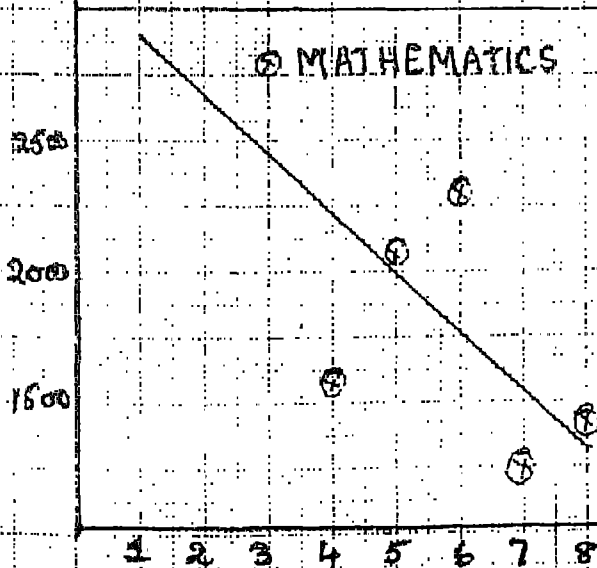
HINDI



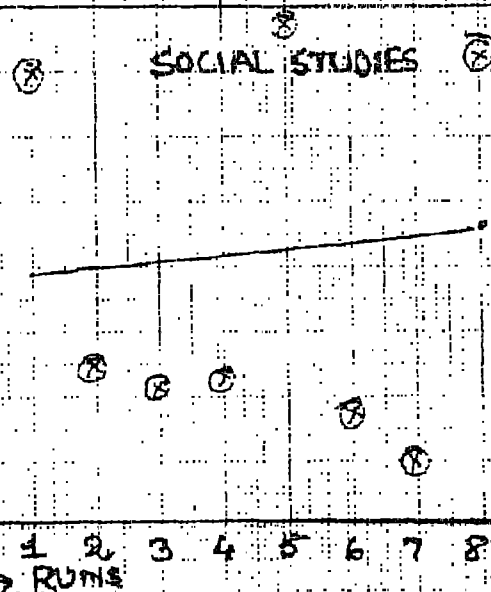
SCIENCE



MATHEMATICS



SOCIAL STUDIES



→ RUNS

6.2 Visakhapatnam School.

One particular aspect that should be kept in mind about the Visakhapatnam School, as pointed in the earlier chapter, is though this Central School is situated in an industrial city of a developed State, it records lowest levels of parental education and income when compared to either Sambalpur School, which is a semi rural area or Delhi School which is a cosmopolitan area. In terms of fathers' education, the average level of the sample is 3.21 and 40 % of the fathers are educated upto Graduation and above. The average level of mothers' education is as low as 1.49 and mothers educated upto Matric and above add up to 46 % of the total strength. Another important fact to be noted here is that as high as 21 % of the mothers are just illiterate. Average level of parental income of the sample is Rs.1490 per month and only 23 % of the parents belong to the high income group earning Rs.2000 and above per month. In this context of low levels of parental education and income, one wants to see whether it has any effect on their wards. In order to estimate this effect on their wards in choosing the runs in each subject. Subjectwise average levels of education of fathers in each run, levels of fathers' education in the three groups and the corresponding regression coefficients are presented

in Table 6.2.1., the relevant information regarding the mothers' education is given in Table 6.2.2.; and the relevant information regarding the total income of the parents is presented in Table 6.2.3.

6.2.1. Fathers' Education.

In this School, the association of a fathers' education with the success of the system show three kinds of patterns. In Mathematics, former runs recorded higher levels of fathers education, while in the subjects Hindi, Science and Social Studies, the trend gets reversed with latter runs recording higher levels of fathers' education. The third pattern is observed in English where the levels of fathers' education did not vary much between runs.

In case of English, all the eight runs recorded fathers' education in between 3 and 4. The same pattern is shown in the three groups where in U group and F group record 3.615 and 3.7 which are approximately same. In Hindi, the latter runs R_6 , R_7 and R_8 recorded higher levels of fathers' education compared to R_1 , R_2 and R_3 , but R_5 in general records very high level of fathers education. The behaviour in the three groups reflect the same pattern. Though I group records 3.375 which is the highest in the three groups, the average level of fathers' education is higher in F group than that of U group. U group recorded only 3.088 which is the lowest among the three groups. Regarding Science and Social studies, we get an interesting picture. In both the subjects, all the 91 students of the sample are distributed

only in four runs out of eight runs. Even in ~~max~~ such a case, we could observe somewhat a clear pattern wherein the latter runs in general record higher levels of fathers' education than the former runs. The same pattern is observed in the three groups also. In both the subjects, F group recorded distinctly higher levels of fathers' education. In fact, the level of education recorded in this group are the highest among the three groups. In case of Mathematics, higher levels of fathers' education are recorded in the former runs of R_2 and R_3 compared to the latter runs of R_6 , R_7 and R_8 . Among the three groups, U group recorded 3.818 which is the highest among the three groups.

Now, observing the five subjects together in this School, only in one subject, Mathematics, higher levels of fathers' education seems to serve as an input for their wards in choosing the successful runs which resulted in higher usage of the system. In all the other four subjects, higher levels of fathers' education did not serve as a useful input to help in the wards choice of the success runs.

The regression coefficients are positive in all the subjects except English and Mathematics and with Mathematics the coefficient is numerically the highest.

In order to see the influence of fathers' education on their wards, one can observe the distribution of students in the three groups at each level of fathers' education. Table 6.2.1A gives the percentage number of students in different run groups according to the level of fathers' education.

In English, the distribution shows that majority of the parents have their wards in I group at all the levels of education starting from 1 to 6. In the level 1, 11.11 % of students are in U group as well as F group, whereas 77.77 % of them are in the middle I group. But at the level 6, there is an increase in the strength of U group. It increased from 11.11 % to 21.74 % and the increase in F group is upto 17.39 %. There is a corresponding decrease in I group from 77.77 % to 60.80 %. So it seems that the students in indifferent group got marginally polarised into U and F groups as one moves down the table. In Hindi, there seems to be no clear positive association between educational level of father and the strength of students in the U group. At the level 1, 77.77 % of students are in U group with only 22.22 % students in I group. But at the level 6, only 47.63 % of students are in U group whereas 39.13 % of students are there in I group. So there seems to be a decrease in U group associated with an increase in I and F groups. One can say that increased level of fathers'

education does not seem to be acting as an input to their wards in the choice of the runs. But Mathematics offers a different picture. At the level 1, there are 22.22 % of the students in U group and the students in I group are 44.44% and students in F group are 33.33 %. With the level of education of father increasing, there is an increase in the U group. At the level of 6, the strength of U group has increased from 22.22% to 52.17 % and the correspondingly, the strength in the other groups decreased. This provides an evidence to infer that higher levels of fathers' education acted as an input for the students in the choice of the runs in the successful zone. In the subjects Science and Social Studies, majority of the fathers have their wards in I group. Another fact to be noted for both the subjects is that not only majority of them fall in the I group, but also the percentage of students in F group increases with the increase in the educational level of fathers. In case of Science, the strength of F group increased from 0 to 13.04 % and in Social Studies, the strength increased from 11.11 % to 21.74 %, thus providing an evidence to show that higher levels of fathers' education did not become a necessary input in these two subjects.

Table 6.2.1

Average level of fathers' education in each run and run groups Visakhapatnam in different subjects in Visakhapatnam Schools

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	I group	F group
English	-	4	3.55	3.06	4	-	-	3.7	3.615	3.07	3.7
Hindi	-	3.47	2.90	3.2	6.0	3.2	4	3.25	3.088	3.375	3.286
Maths.	-	4.08	3.65	2.92	4.0	1.83	4	2.86	3.818	3.066	2.679
Science	-	-	3.30	3.14	-	-	4	3.67	3.294	3.136	3.75
Social Studies	-	-	3.28	3.06	-	2	-	3.93	3.286	3.054	3.786

REGRESSION COEFFICIENTS	
Subject	Regression coefficients β
English	- 0.035
Hindi	+ 0.06
Mathematics	+ 0.1447
Science	+ 0.1303
Social Studies	+ 0.0748

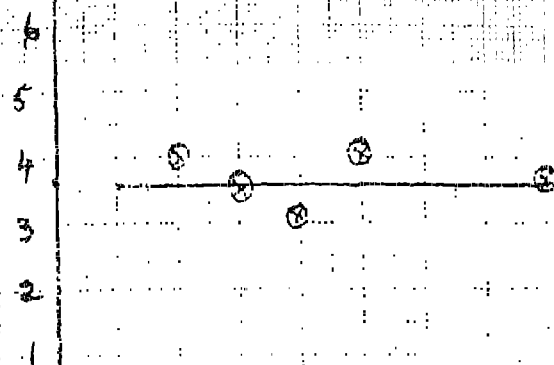
Table 6.2.1A

Percentage number of students in different run groups at each level of fathers' education- Visakhapatnam School

<u>Levels</u>	<u>U group</u>	<u>I group</u>	<u>F group</u>
<u>ENGLISH</u>			
1	11.11	77.77	11.11
2	13.33	77.78	8.89
4	7.14	85.72	7.14
6	21.74	60.86	17.39
<u>HINDI</u>			
1	77.77	22.22	0
2	46.67	35.55	17.78
4	42.86	35.71	21.43
6	47.83	39.13	13.04
<u>MATHEMATICS</u>			
1	22.22	44.44	33.33
2	26.68	33.33	40.00
4	50	28.57	21.43
6	52.17	30.43	17.39
<u>SCIENCE</u>			
1	44.44	55.55	0
2	11.11	80	8.88
4	21.43	71.43	7.14
6	21.74	65.22	13.04
<u>SOCIAL STUDIES</u>			
1	33.33	55.55	11.11
2	17.78	71.11	11.11
4	35.71	42.86	21.43
6	21.74	56.52	21.74

GRAPH 6.2.1 VISAKHAPATNAM FATHER'S EDUCATION

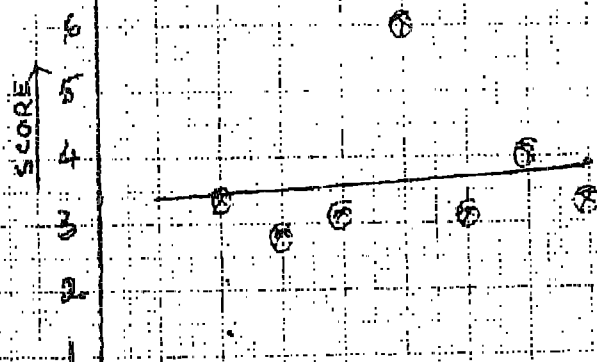
ENGLISH



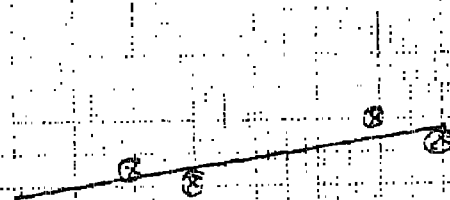
x axis = Number of
the run

y axis = Father's education
average score

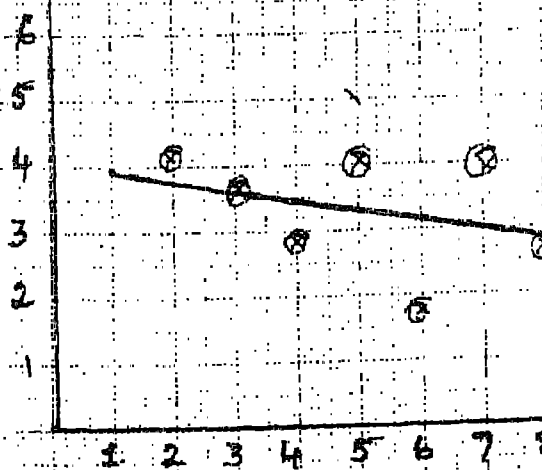
HINDI



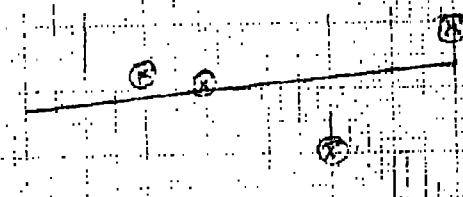
SCIENCE



MATHEMATICS



SOCIAL STUDIES



6.2.2 Mothers' Education.

The association of mothers' education with the usage of the system in this School shows four different patterns in the subjects. The language subjects English and Hindi did not behave in the same way. In English, higher levels of mothers' education is recorded in the former runs while in Hindi, no clear pattern is shown. In Mathematics, indifferent runs recorded higher levels of mothers' education and lastly in Science and Social Studies, higher levels of mothers' education is recorded in the latter runs.

In case of English, higher levels of mothers' education is recorded in one of the former runs R_3 compared to the levels in the latter runs. Among the three groups also, U group recorded higher levels of mothers' education compared to F group in particular and I group in general. The level of mothers' education recorded in U group is 2.077 which is the highest among the three groups. Hindi did not show any clear pattern. Higher levels of mothers' education is recorded in R_5 compared to other runs. The run R_5 , a run termed as belonging to indifferent group, recorded a very high value, as high as 3.5, which is followed by a former run R_2 with 1.87 as the ^{average score} level, also by latter runs R_6 and R_8 . But the same behaviour is not observed in the three run groups where U group recorded 1.6 which

is the highest among the three groups. Regarding the subject Mathematics, the indifferent runs R_4 and R_5 recorded higher levels of mothers' education in general. But comparing the educational levels of mothers in the former and latter runs, the former runs R_2 and R_3 recorded higher levels of mothers' education than the levels in the latter runs R_6 and R_8 (with an exception of a lone member in the total strength of 91 recording the highest level of mothers' education in the run R_7 . The same behaviour can be observed in the three groups where I group recorded 1.733 which is the highest among the three groups. Among U and F groups, mothers' education recorded in U group is 1.636 which is higher than that of F group. In the subjects Science and Social Studies, higher levels of mothers' education is recorded in the latter runs R_6 , R_7 and R_8 . Among the three groups also, F group recorded 2.625 in case of Science and 1.928 in case of Social Studies which are the highest among the three groups.

Pooling the observations together, Mathematics stands out separately in which higher levels of mothers' education did help their wards in choosing the success runs. Among the language subjects, only in English, mothers' education did help their wards, but evidence is not clear in case of Hindi. In Science and Social Studies, the evidence shows that higher levels of mothers' education is not at all a useful input for their wards in choosing the success runs.

The regression coefficients are all positive except in the subject Hindi.

The distribution of students among U, I and F groups at each level of mothers' education can also be observed to get further evidence of the above results. Table 6.2.2A gives the percentage number of students in different run groups, according to the level of mother's education. In English, majority of the mothers have their wards in I group at almost all the levels of mothers' education. At the level zero, 89.47 % of the students are in I group. As we move down the table upto level 4, there seems to be an increased of strength in U group, the increase is from zero percent to 42.86 % , associated with a marked decrease in I group. In this case, the decrease is from 89.47 % to 28.57 %. But at the last level 6, I group records a strength of 100 %.

Regarding Hindi, at zero level of mothers' education, U group has a strength of 42.11 % and I group has 47.37 % students . At the level 6 , the percentages became equal to 50 % . Now , if we observe the strength of U group as we move down from 0 to 6, there is no clearcut pattern. Increase and decrease in strength are alternating

The strength in U looks as to be increasing, but the pattern is not clear. For the subject Mathematics, there is roughly an equal distribution among the three groups at the zero level. But as we move down the table from zero level to level 6 of mothers' education, there is definitely an increase from 31.58 % to 50 % ^{in U group}, accompanied by a gradual fall in I group. Science and Social Studies provide us slightly different picture this time. At the zero level of mothers' education, Science has as high as 94.74 % of students in I group and Social Studies also has 63.16 % in this I group. In Science, this high values are maintained until the level four where I group has 71.42 %. But suddenly at the level 6, equal polarisation into U and F groups took place and the strength in I group became zero. In case of Social Studies, though at level 6, I group has only zero strength, the shift seems to be towards F group at the level 6. As one moves from 0 to 6, there seems to be an increase in U group from 21.05 % to 57.14% which suddenly drops to 0 at the level 6 of mothers' education.

Table 6.2.2

Average level of mothers' education in each run and run groups
in different subjects Visakhapatnam School.

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	F group	F group
English	-	1.5	2.18	1.34	2.0	-	-	1.7	2.077	1.353	1.7
Hindi	-	1.87	1.47	1.17	3.5	1.6	1	1.625	1.6	1.313	1.571
Maths.	-	1.54	1.7	1.66	2.25	0.83	4	1.0	1.636	1.733	1.071
Science	-	-	1.65	1.32	-	-	3	2.5	1.667	1.318	2.625
Social Studies	-	-	1.72	1.30	-	1	-	2.0	1.714	1.304	1.928

REGRESSION COEFFICIENTS

Subject Regression coefficients

English	+ 0.0063
Hindi	- 0.0442
Mathematics	+ 0.0768
Science	+ 0.2723
Social Studies	+ 0.0583

Table 6.2.2A.

Percentage number of students in different run groups at each level of mothers' education in Visakhapatnam School

Range	U group	I group	F group
<u>ENGLISH</u>			
0	0	89.47	10.53
1	16.66	73.33	10.00
2	15.15	75.75	9.09
4	42.86	28.57	28.57
6	0	100	0
<u>HINDI</u>			
0	42.11	47.37	10.52
1	53.33	40.00	6.66
2	45.45	24.24	30.30
4	71.43	28.57	0
6	50	50	0
<u>MATHEMATICS</u>			
0	31.58	31.58	36.84
1	33.33	20.00	46.66
2	39.39	42.42	18.18
4	42.86	42.86	14.28
6	50	50	0
<u>SCIENCE</u>			
0	5.26	94.74	0
1	33.33	63.33	3.33
2	12.12	72.72	15.15
4	14.29	71.42	14.29
6	50	0	50
<u>SOCIAL STUDIES</u>			
0	21.05	63.16	15.79
1	20.00	70.00	10.00
2	21.21	60.60	18.18
4	57.14	42.86	0
6	0	0	100

6.2.3 Total Family Income.

The association of total family income with the usage of the system shows three different patterns in this school. The two language subjects recorded higher levels of income in the middle order runs while Mathematics in this School maintains its speciality by recording higher levels of income in the former runs. Social Studies like Mathematics, recorded higher incomes in the former runs. The third pattern is shown by ^{Science} Social Studies in which no consistent pattern is there.

The two language subjects recorded higher levels of income in the run R_5 in general, but they recorded higher levels of income in the latter runs R_6 , R_7 and R_8 compared to the former runs R_2 and R_3 . The same pattern is followed among the three run groups by the subject Hindi and not by English. In Hindi, I group recorded higher incomes in general and among the two groups U and F, F group recorded Rs.1562 whereas U group recorded Rs.1275. In English, not I group but F group recorded an average income of Rs.2025 which is the highest among the three groups. In the subject Mathematics, higher levels of income are recorded in the former runs R_2 and R_3 compared to all the other runs. Among the three groups also, U group recorded an income of Rs.1739, which is the highest among the three groups.

In case of Science, there is no consistent pattern. It recorded higher levels of income both in R_3 and also R_7 , that is former as well as latter runs. But among the three groups, U group recorded the highest level of income. But the subject Social Studies behaved differently. It recorded higher levels of income in the former run R_3 than the latter runs R_6 and R_8 . The same behaviour is observed among the three groups also, where U group recorded an income level of Rs.1933 which is the highest.

Looking at all the subjects together, we can observe that in two subjects namely Mathematics and to some extent Social Studies, higher levels of income acted as a useful input for their wards in using the system successfully.

The regression coefficients are negative and high values are recorded in Mathematics and Social Studies. In other subjects, they are positive.

Further evidence regarding the above facts can be obtained by observing the distribution of students among the three groups at different levels of income of the family. Table 6.2.3A gives the percentage number of students in different run groups according to the level of total income of the family. In case of English, majority of

the students are in I group at different levels of income except in the third level. In this third level of income between 1500-2000, there are only 38.46 % in I group whereas in the (0-1000) level, 86.66 % of students are in I group with only 6.66 % in each of U and F groups. In the last level, that is \geq Rs.3000 and above, I group has only 66.66 % and here the shift is not to U but F group. So higher levels of income pushed the students to F group. Hindi provides a different picture. In the range (0-1000), as high as 60 % of the students are in U group and 26.66 % of them are in I group. As the income level increases to Rs.3000 and above, the strength is reduced from 60 % to as small as 16.66 % but the strength in I group has increased from 26.66% to a very high value 66.66 % . The percentages in F group did not vary largely. In case of Mathematics, in the initial stage (0-1000); majority of the students are in F group with 46.66 % in the group whereas U and I groups have 23.33 % and 30 % respectively. As income level increases to 3000 and above, there is only a marginal increase in F group. But in case of U group, though there is a decrease at one level, there is a substantial increase reaching 50 % of strength ^{the last level.} in U-group. So one can infer that as one moves down the table towards increasing income, there is definitely an increase in the strength of U group. In case of F group, there

is only a marginal increase. The increase in U group is associated with decrease in I group. In Science, I group has the majority of strength at almost all the levels of income. In the range (0-1000), there are 90 % students in I group whereas U group has as small as 3.33 %. As the income level increases to 3000 and above, strength in I group decreases from 90 % to 66.66 % and the strength in U group has increased from 3.33 % to 33.33 %. There is obviously a shift from I group to U group at high levels of income. Social Studies provides an interesting picture. Here, though the income level increases, the strength in I group remains almost the same at all levels except in the range (2000-3000). Another aspect of this subject is the strength in U group increases from 12.33 % at the range (0-1000) to 33.33 % at the range 3000 and above. This increase is a shift from F group which decreases from 20 % to zero percent.

Table 6.2.3

Average level of Total Income in each run and run groups in different subjects in Visakhapatnam School

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	Ugroup	I group	F group
ENGLISH	-	1250	1625	1384	2250	-	-	2022	1567	1397	2025
Hindi	-	1317	1254	1654	3375	1650	2250	1402	1275	1762	1563
Maths.	-	1740	1738	1399	1313	1042	875	1405	1739	1388	1308
Science	-	-	1853	1379	-	-	1938	1542	1853	1379	1641
Social Studies	-	-	1833	1411	-	875	-	1327	1833	1411	1295

REGRESSION COEFFICIENTS

Subject	Regression coefficients
English	+ 32.40
Hindi	+ 17.6786
Mathematics	- 110.25
Science	+ 3.583
Social Studies	- 107.23

Table 6.2.3A

Percentage number of students in different run groups at each level of total income of the family in Visakhapatnam School

Range	U group	I group	F group
<u>ENGLISH</u>			
0-1000	6.66	86.66	6.66
1000-1500	11.54	84.62	3.84
1500-2000	38.46	38.46	23.08
2000-3000	18.75	68.75	12.5
3000 above	0	66.66	33.33
<u>HINDI</u>			
0-1000	60.0	26.66	13.33
1000-1500	50.0	34.62	15.38
1500-2000	53.85	30.77	15.38
2000-3000	37.5	43.75	18.75
3000 above	16.66	66.66	16.66
<u>MATHEMATICS</u>			
0-1000	23.33	30	46.66
1000-1500	42.31	30.77	26.92
1500-2000	30.77	46.15	24.08
2000-3000	50	43.75	6.25
3000 above	50	0	50
<u>SCIENCE</u>			
0-1000	3.33	20	6.66
1000-1500	26.92	69.23	3.85
1500-2000	30.77	53.85	14.38
2000-3000	18.75	62.5	18.75
3000 above	33.33	66.66	0
<u>SOCIAL STUDIES</u>			
0-1000	12.33	66.66	20.00
1000-1500	23.08	65.38	11.54
1500-2000	18.38	69.23	15.38
2000-3000	43.75	37.50	18.75
3000 above	33.33	66.66	0

GRAPH 6.23 VISAKHAPATNAM

TOTAL INCOME

155

ENGLISH

3000

2000

1000

x axis = Number of
the run

y axis = Total income

HINDI

3000

2000

1000

SCIENCE

MATHEMATICS

3000

2000

1000

SOCIAL STUDIES

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

155

6.3 Delhi School.

In all the three schools, Delhi central School, by virtue of being located in the cosmopolitan city. Projects its superiority in terms of socio-economic back-grounds of the parents. As noted earlier, out of the three Schools, Delhi School recorded highest levels of fathers' education, mothers' education and total family income. In terms of fathers' education, the average level of the sample is 4.6 and 79 % of the fathers are educated upto Graduation and above; and 52 % of them are highly qualified Postgraduates; or technically trained personnel. The average level of mothers education is 2.42 and 68 % of them are educated upto Matric and above; with only 8 % of mothers being illiterate. Mothers who are employed form a very small percentage. Only 16 % of them are employed either as teachers or clerks, generally getting below Rs.1000 per month. Average total income of the family is Rs.2420 and 57 % the parents belong to high income group earning Rs.2000 and above per month.

In this back drop of high levels of education and income of parents, it would be interesting to see whether Delhi School records a more successful usage of the system. Subjectwise average levels of fathers' education in each run and in each run group and the corresponding regression coefficients are presented in table 6.3.1

and the relevant information regarding the mothers' education is given in Table 6.3.2 and the relevant information regarding the total income of the parents is presented in Table 6.3.3.

6.3.1 Fathers' Education.

Delhi School offers the most surprising result regarding the impact of fathers' education on their wards performance. All the five subjects show the ineffectiveness of fathers' education.

For all the five subjects, the latter runs R_6 , R_7 and R_8 recorded higher levels of fathers' education compared to the former runs R_1 , R_2 and R_3 (There is only one exception in Science subject where a single member recorded rather a high value of fathers' education in the run R_2). The same behaviour can be observed for all the five subjects without any difference among the three run groups also. The subject Social Studies provided only a minor variation. For all the five subjects, the average fathers' education in F group is higher than the average in U group. In fact, the average fathers' education in F group is higher than the average fathers' education in I group also for all the subjects, except Social Studies.

Observing the five subjects together, fathers' education in Delhi School did not act as a necessary input for their wards in any subject in helping them to face uncertainties and thus utilise the system to their advantage. Fathers' education seems to be redundant in Delhi in all the subjects.

The regression coefficients are positive for all the subjects except Science.

Further evidence regarding the effect of fathers' education can be obtained by observing the distribution of students in each of the three groups at each level of fathers' education. Table 6.3.1A gives the percentage number of students in different run groups according to the level of fathers' education : A glance at the table shows that in all the subjects, there seems to be a decrease in the strength of U group and to some extent, there is an increase in the strength of F group with an increase in fathers' education. In English, Hindi and Mathematics, all the students (100 %) are in the U group at level 1 of fathers' education. As the fathers' educational level increases from the level 1 to level 6, there is a decrease in the strength of U group; and an increase in the strength of I and also F groups. In the subject Mathematics, the decrease in U group is from 100 % at the level 1 to 35.28 % at the level 6, the decrease being quite significant. At the same time, there is an increase in the frequencies of I as well as F groups. Thus in Mathematics, the shift is from U group to both I and F groups. In Hindi, the shift is more towards F group. Science and Social Studies show us a different picture. Both the subjects recorded 100 % in I group

at the level 1, but at the next level, there are only 30% of students in U group in Science as well as Social Studies. With the increase in educational level of father, there seems to be a decrease in the strength of U in both the subjects and this decrease is associated with an increase in the strength more to I group than in F group in both subjects. The increase in case of Science in I group is from 60 % to 68.83 % and in Social Studies, the increase in I group is from 20 % to 37.26 %.

Table 6.3.1

Average level of fathers education in each run and run group in different subjects in Delhi School

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	I group	F group
English	-	3.88	4.87	4.82	4.4	4.85	-	4.94	4.354	4.74	4.916
Hindi	4.5	4.76	4.7	4.14	2.8	5.1	6	4.86	4.694	3.789	5.111
Maths.	-	3.88	4.66	4.50	4.73	5.0	5	5.28	4.333	4.564	5.143
Science	-	6	4.23	4.67	2	6	5.33	4.58	4.316	4.623	4.909
Social Studies	-	3	4.32	4.78	-	6	4.95	3.25	4.190	4.771	4.651

REGRESSION COEFFICIENTS

Subjects	Regression coefficients β
English	+ 0.1138
Hindi	+ 0.11
Mathematics	+ 0.1972
Science	- 0.003
Social Studies	+ 0.1154

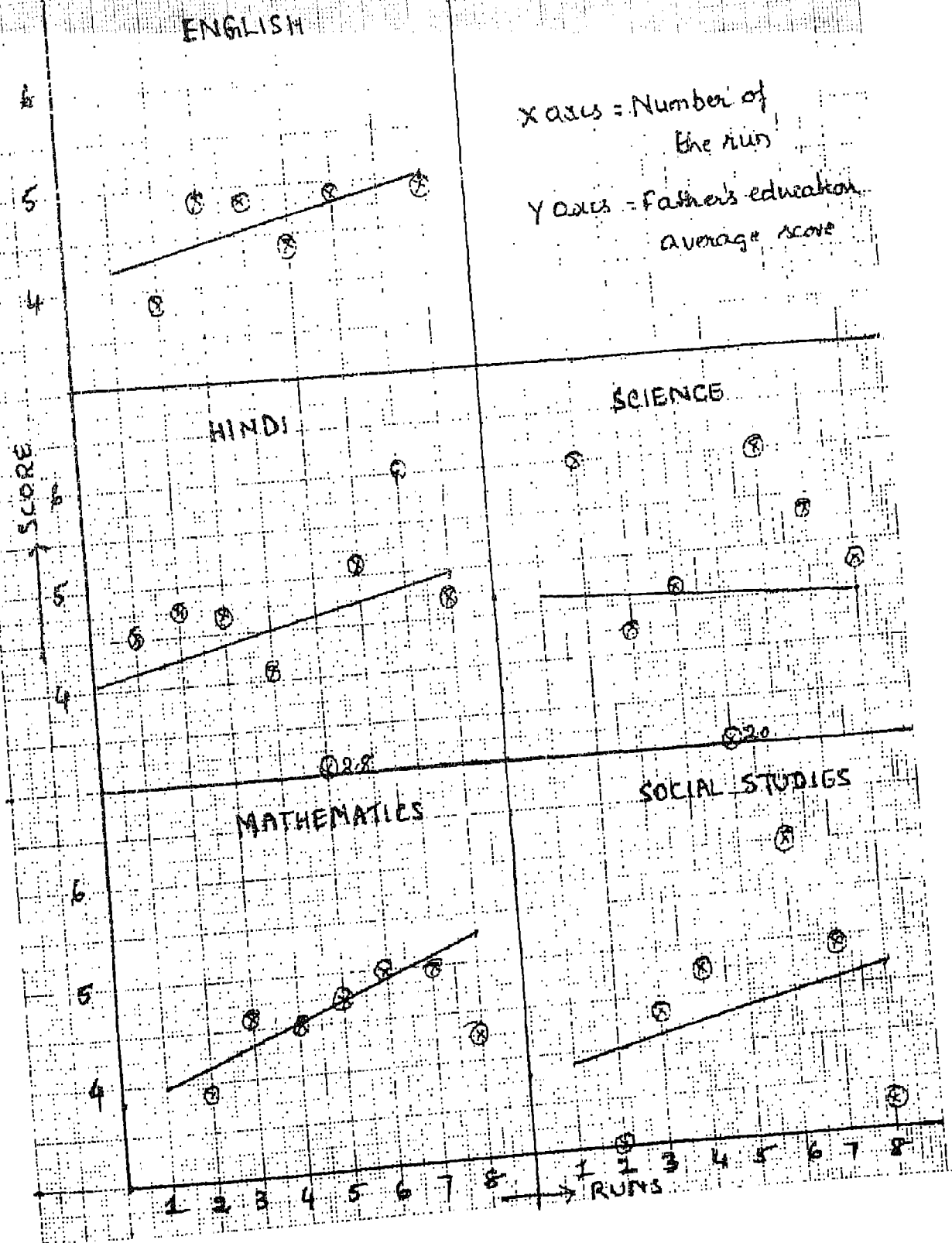
Table 6.3.1A

Percentage number of students in different run groups at each level of fathers' education in Delhi School

	Range	U group	I group	F group
<u>ENGLISH</u>				
1		100.00	0.	0
2		55.00	20.00	25.00
4		55.55	33.33	11.11
6		41.18	25.49	33.37
<u>HINDI</u>				
1		100.	0	0
2		60.00	35.00	5.00
4		51.85	25.93	22.22
6		68.63	9.80	21.00
<u>MATHEMATICS</u>				
1		0	100.00	0
2		50.00	45.00	5.00
4		37.04	37.04	25.92
6		35.29	39.22	25.49
<u>SCIENCE</u>				
1		0	100.00	0
2		30.00	60.00	10.00
4		14.81	77.78	8.41
6		17.65	68.83	13.72
<u>SOCIAL STUDIES</u>				
1		0	100.00	0
2		30.00	30.00	50.00
4		25.93	40.74	33.33
6		15.69	37.26	47.05

GRAPH 6.3.1

DELHI FATHER'S EDUCATION



6.3.2 Mothers Education.

In Delhi School, the association of mothers' education with the success of the system shows three different patterns. In the subject English, higher values of mothers' education are recorded in the middle order runs. In Hindi and Science, former runs recorded higher levels of mothers' education and finally in Mathematics and Social Studies higher levels of mothers' education are recorded in latter runs.

In English, though higher level of mothers' education is recorded in the run R_4 in general, the former runs R_1 , R_2 and R_3 recorded higher levels compared to the latter runs. Similar pattern is observed in the run groups where I group recorded 2.926 which is highest and , U group recorded 2.373 which is higher than \bar{F} group. In Hindi, higher levels of mothers education are recorded in the former runs R_1 and R_2 . Among the three run groups also. U group recorded 2.5 which is higher than the ones recorded in F as well as I groups. Similarly in Science, higher levels of mothers' education are recorded in the runs R_2 and R_3 compared to R_7 and R_8 . (with an exception of a single member recording higher level of 4 in R_7). U group among the three groups, recorded 2.734 which is the highest among the three groups. In Mathematics, mothers' education recorded in the latter runs is higher than the former runs ,

which behaviour is observed in the three groups also. Here F group recorded 3.952 which is higher than U as well as I groups. Social Studies recorded higher values in the latter runs and among the three groups also, F group recorded 2.558 which is higher than U group and also I group.

In all, the three subjects namely English, Hindi and Science, higher levels of mothers' education served as an input for the better utilisation of the system.

Unlike fathers' education here in mothers' education the regression coefficients have negative value in three subjects namely English, Hindi and Science.

In order to see the influence of mothers' education on their wards, one can observe the distribution of students in the three groups at each level of Mothers' education. Table 6.3.2A gives the percentage number of students in different run groups depending on the level of mothers' education.

In English, at zero level of mothers' education which means that mothers are illiterates, 76 % of mothers have their wards in U group and only 12.5 % in each of the other two groups. As the educational level of mothers increase from 0 to 6, strength in the U group has decreased,

strength in I group increased and strength in F group remained almost the same. At the level 6, only 42.86 % of the mothers have their wards in U group and equal number is there in I group also, the shift seems to be from U group to I group. In Hindi, at the zero level of mothers' education, 50 % of the mothers have their wards in U group and 25 % in each of the other two groups. As the educational level increases from 0 to 4, we could observe an increase in the U group upto 81.48 % but at the level 6, the strength in U group suddenly drops to 28.57 % . The other groups did not show any clear trend. In Mathematics, at zero level of mothers' education, U group has 50 %, I group has 37.5 % and F group has only 12.5 %. As one moves down the table with increasing educational level, there is a gradual decrease in the strength of U and gradual increase in the F group. At the level 6, only 28.57 % of mothers opt for U group and 42.86 % of them are in F group. In Science , I group in general recorded higher strength compared to U and F groups. Observing the percentage of students at each level of education, some pattern can be observed. At zero level only 12.5 % of mothers are recorded for U group and I group has recorded a high percentage of 75 % . As one moves down with, increasing level of mothers' education there is an increase in U group to some extent, and a decrease in I as well as F groups. The strength of U group has increased from 12.5 % to

to 42.86 % and I group has decreased from 75 % to 57.14 % ;
and F group has decreased from 12.5 % to 0 % . There seems
to be shift from I and F groups into U group. In Social
Studies, there is no clear pattern that emerges. However, there
seems to be a slight increase in U group from 37.5 % at zero
level to 42.86 % at the level 6.

Table 6.3.2.

Average level of mothers' education in each run and run group in different subjects in Delhi School.

Subjects	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	U group	I group	F group
English	-	2.0	2.7	3.14	2	1.57	-	2.24	2.373	2.926	2.041
Hindi	2.5	2.91	2.24	2.36	2.0	2.22	3	2.29	2.5	2.263	2.33
Maths.	-	2.19	2.43	2.22	2.0	2.17	4	3.28	2.333	4.564	5.143
Science	-	6	2.56	2.40	-	4	1.57	2.29	2.734	2.362	2.272
Social Studies	-	1.5	2.68	2.20	-	6	2.44	2.63	2.524	2.2	2.558

REGRESSION COEFFICIENTS

Subject	Regression coefficients
English	- 0.0751
Hindi	- 0.0172
Mathematics	+ 0.23
Science	- 0.5413
Social Studies	+ 0.4854

Table 6.3.2a.

A

Percentage number of students in different run groups at each level of mothers' education in Delhi School

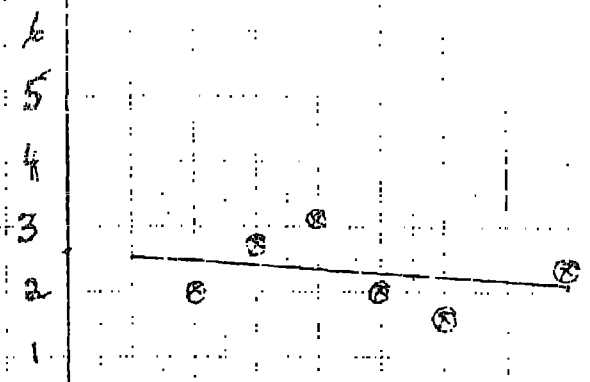
Range	U group	I group	E group
<u>ENGLISH</u>			
0	75.0	12.5	12.5
1	41.66	20.83	37.50
2	48.88	24.24	27.27
4	48.15	37.04	14.81
6	42.86	42.86	14.28
	49	27	24
<u>HINDI</u>			
0	50	25	25
1	54.17	29.17	16.66
2	53.63	15.15	21.21
4	81.48	7.41	11.11
6	28.57	42.86	28.57
	63	19	18
<u>MATHEMATICS</u>			
0	50.0	37.5	12.5
1	37.50	41.66	20.83
2	39.39	51.51	9.09
4	40.74	25.92	33.33
6	38.57	28.57	42.86
	39	39	21
<u>SCIENCE</u>			
0	12.5	75.0	12.5
1	16.66	70.83	12.5
2	21.21	69.69	9.09
4	14.81	70.37	14.81
6	42.86	87.14	0
	19	70	11
<u>SOCIAL STUDIES</u>			
0	37.5	50	12.5
1	20.83	29.17	50
2	15.15	45.45	39.39
4	18.52	25.93	55.55
6	42.86	28.57	28.57

GRAPH 6-3.2

DELHI

MOTHER'S EDUCATION

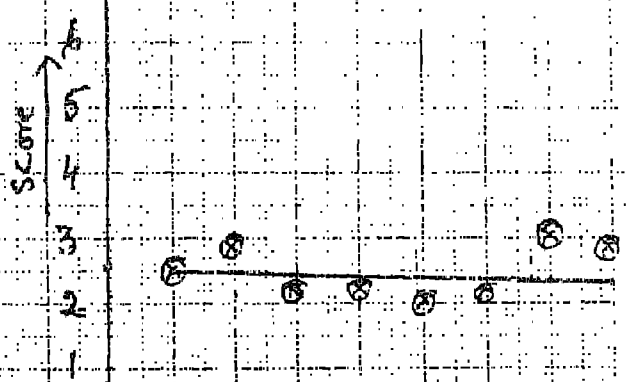
ENGLISH



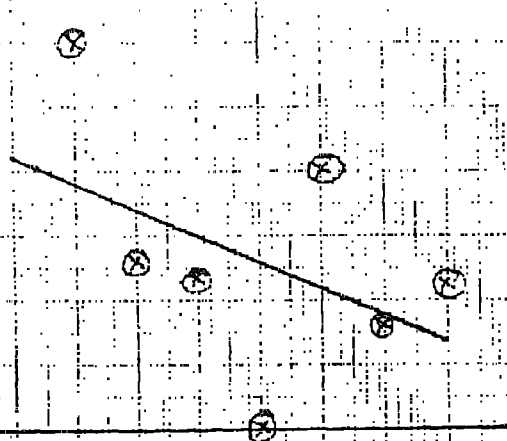
x axis = Number of the run

y axis = Mother's education average score

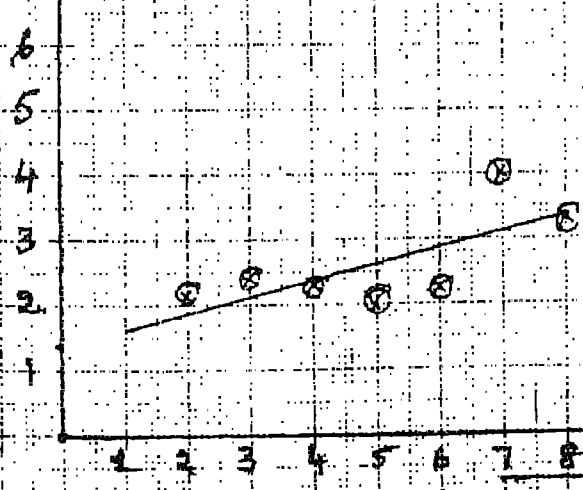
HINDI



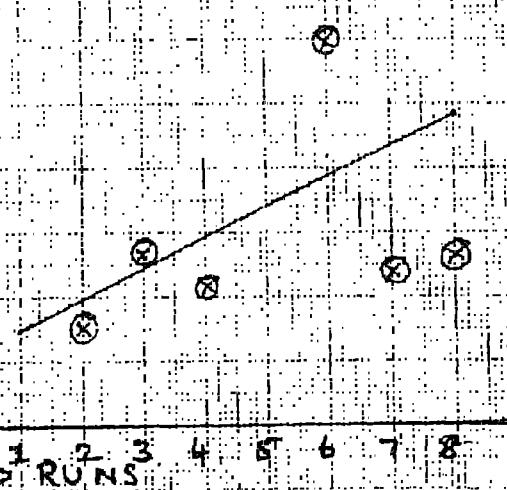
SCIENCE



MATHEMATICS



SOCIAL STUDIES



RUNS

6.3.3 Total Family Income.

Regarding the impact of income on their wards, Delhi School offers again the same surprising result it offered in case of impact of fathers' education. All the subjects in Delhi did not behave in a similar way regarding the impact of their parental income. Hindi portrays one pattern, English and Mathematics provide another pattern and finally Social Studies and Science give us a third variety.

Hindi recorded higher levels of income in the former runs R_1 , R_2 , R_3 compared to latter runs R_6 , R_7 , R_8 . In English, higher levels of income are recorded in R_3 as well as R_4 . Regarding Mathematics, R_5 records a higher level of income compared to all other runs. In Science, though a single member recorded Rs.4000 in the former run R_2 which is the highest, the latter runs R_7 and R_8 in general recorded higher incomes compare to former runs. In Social Studies, the latter runs R_6 and R_7 recorded higher levels of income compared to the former runs. Among the three groups, Hindi is the only subject which recorded Rs. 2452 in U group which is higher than both I and F groups. The subjects English and Mathematics recorded higher levels of income in I group, higher compared to U as well as F groups. Science and Social Studies subjects recorded higher levels of income in F group.

From the above observations, one can say that there is only one subject namely Hindi in Delhi School in which higher income levels of parents help their children in choosing the success runs. The Regression Coefficients have a negative value for two subjects & namely Hindi and Science.

The percentage distribution of students among the three groups also exhibit the speciality of Delhi School where in there is no clear trend to be found in any one of the subjects. The relevant tables dealing with the distribution in the three groups at each level of parental income is presented in Table 6.3.3 A.

However, the subject Hindi, where we could get some evidence previously in support of the success of the system, failed to get further evidence here. Though the pattern is not very clear, there seems to be a decrease in the frequency of U group with an increase in the level of total income of the family. At the level (0-1000); U group has 85.71 % which has decreased to 65.52 % at the last level . I group to some extent seems to be increasing its strength . In the subjects English and Mathematics, as stated above , there seems to be no pattern that emerges with increasing levels of income. However, in both the subjects, one can observe a small decrease in the strength of U group which is associated with an increase in the strength of F group. Science and Social Studies also have no clear pattern.

6.4 Summary.

Summarising all the observations in the three schools, association of fathers' education with the usage of the system differs in the three schools. In Sambalpur School, there is only one subject Science in which higher levels of fathers' education is associated with better usage of the system. In Visakhapatnam School also, there is only one subject namely, Mathematics where in higher levels of fathers' education acted as an input for the students in the choice of the runs in the successful zone. But in Delhi School, there is no subject in which higher levels of fathers' education acted as a necessary input for their wards in helping them to utilise the system to their advantage.

Regarding the effect of mothers' education, in Sambalpur School, in only one subject namely Mathematics, higher levels of mothers' education helped their children in choosing the success runs. In Visakhapatnam School, there are two subjects namely English and Mathematics in which higher levels of mothers' education became a useful input for their children. There is also a mother subject Hindi in which the evidence is not very clear, but higher levels of mothers' education to some extent seems to be a useful input. Regarding Delhi School, there are two subjects namely Hindi and Science which show a clear association

between higher levels of mothers' education and better usage of the system. There is another subject English in which higher levels of mothers' education are recorded in the former runs but the distribution of students in the three groups at different levels of mothers' education showed a decrease in the strength of U group associated with an increase in the strength of I group as we move down the table with increasing levels of mothers' education did not act as a necessary input in this subject.

Regarding the effect of total income of the family, In Sambalpur School, higher levels of income of parents acted as an input for their wards in only one subject Mathematics. In Visakhapatnam School, there are two subjects namely Mathematics and Social Studies in which higher levels of family income became a useful input for better utilisation of the system by their children. There is one more subject namely Science in which there is an increase in the strength of U group associated with a decrease in the strength of I group, indicating the usefulness of income of the family to some extent in the choice of the success run. In Delhi School, though initial signs of success are shown for one subject Hindi, further evidence in terms of increase in the strength U group with increase in income levels could not be obtained. In this subject,

there is infact a decrease in the strength of U group with increasing levels of income of the family, indicating the ineffectiveness of family income in helping their children for better utilisation of the system.

Results at a glance are as follows

Character	Sambalpur School	Visakhapatnam School	Delhi School
Fathers education	1. Science	1. Mathematics	1. Nil
Mothers education	1. Mathematics	1. English 2. Hindi 3. Mathematics	1. Hindi 2. Science
Total income of the family	1. Mathematics	1. Mathematics 2. Science 3. Social Studies	1. Nil

Table 6.3.3

Average level of total income in each run and run groups in different subjects in Delhi School

Subject	R ₁	R ₂	R ₃	R ₄	R ₅	P ₆	R ₇	R ₈	U group	I group	F group
English	-	2185	2592	2580	2050	2429	-	2434	2380	2481	2432
Hindi	2875	2595	2258	2670	1725	2681	2250	1857	2452	2421	2313
Maths.	-	2148	2565	2170	3148	2354	2594	2398	2394	2446	2423
Science	-	4000	2417	2355	2250	2250	3042	2625	2500	2353	2705
Social studies	-	1813	2507	2054	-	4000	2787	2219	2440	2054	2709

REGRESSION COEFFICIENTS

Subject Regression coefficients

English + 5.2109

Hindi -101.51

Mathematics +34.7143

Science -105.4286

Social Studies + 33.00

Table 6.3.3A

Percentage number of students in different run groups at each level of total income of the family in Delhi School

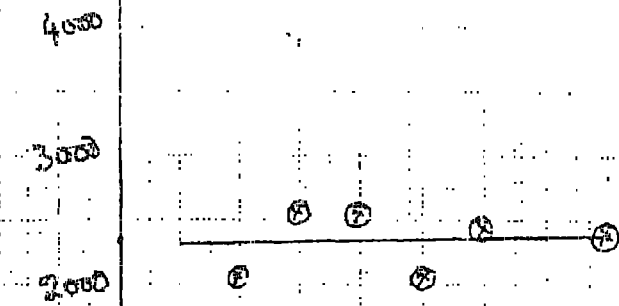
	Range	U group	I group	F group
<u>ENGLISH</u>				
	0 -1000	57.14	28.37	14.29
	1000 -1500	47.06	35.29	17.65
	1500-2000	57.89	10.53	31.58
	2000 -3000	37.04	33.33	29.63
	3000 above	51.72	27.59	20.69
		49	27	24
<u>HINDI</u>				
	0 -1000	85.71	0	14.29
	1000 -1500	64.71	11.76	23.53
	1500-2000	36.84	42.11	21.05
	2000 -3000	70.38	18.81	18.81
	3000 above	65.52	17.34	17.24
		63	19	18
<u>MATHEMATICS</u>				
	0 -1000	50	50	0
	1000 -1500	41.18	35.29	23.53
	1500 -2000	42.11	42.11	15.78
	2000 -3000	33.33	37.04	29.63
	3000 above	41.38	41.38	17.24
<u>SCIENCE</u>				
	0 -1000	0	100	0
	1000 -1500	17.65	76.47	5.88
	1500 -2000	26.32	57.89	15.79
	2000 -3000	18.52	70.37	11.11
	3000 above	20.69	65.32	13.79
		19	70	11
<u>SOCIAL STUDIES</u>				
	0 -1000	0	42.86	57.14
	1000 -1500	41.18	35.29	23.53
	1500 -2000	15.79	47.37	36.84
	2000 -3000	14.81	48.15	37.04
	3000 above	24.14	13.79	62.07
		21	35	44

GRAPH 6.3.3

DELHI

TOTAL INCOME

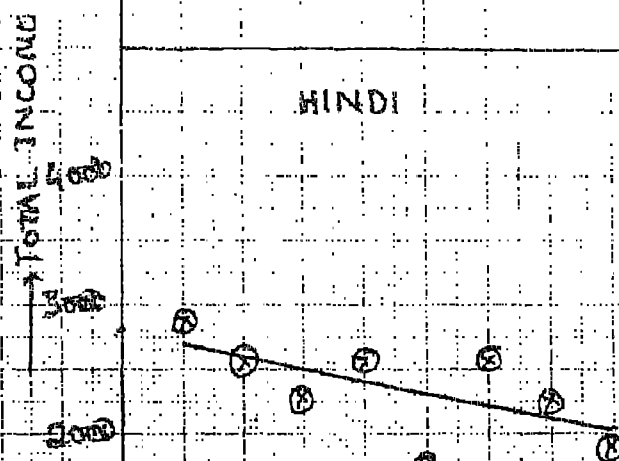
ENGLISH



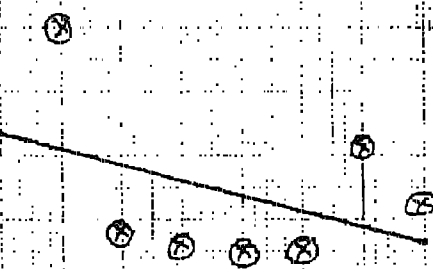
x-axis = Number of
the run

y-axis = Total Income

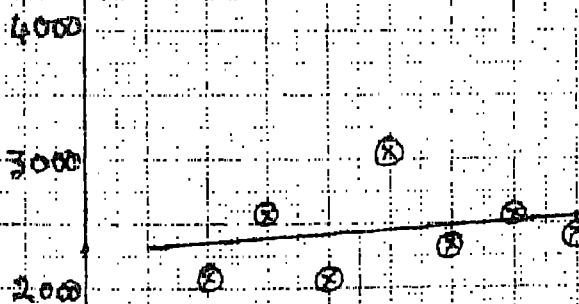
HINDI



SCIENCE



MATHEMATICS



SOCIAL STUDIES



1 2 3 4 5 6 7 8 → RUNS

Chapter-7

RESPONSES OF THE PARTICIPANTS

RESPONSES OF THE PARTICIPANTS

7.1 Parents' Responses.

There are three groups of participants in the Continuous Evaluation System, on whom depends the success of the system. The three groups are parents, students and teachers. It is on their perceptions, their involvement and contribution that the system depends for its success. In this chapter we present the responses as detailed by the answers to the questionnaire we canvassed to the three set of participants.

In this section, we present the responses of parents regarding the usefulness of the Continuous Evaluation System. The questionnaire we canvassed contains questions regarding parental involvement in the childrens' education, their understanding of the Continuous Evaluation System and assessment of the system. We have collected responses from 24 parents in Sambalpur School, 21 parents in Visakhapatnam School and 30 parents from Delhi School. The following are their responses.

7.1.1 Sambalpur School.

In Sambalpur , 24 parents responded to our questionnaire. In order to know whether parental participation is there in terms of helping their child, they were asked the question, " who helps the student in the regular studies of the School ?" and the options given were Father, Mother, Tutor and Student. out of 24 parents, 19 parents indicated that they both help in the studies of their wards. In case of 10 students, tutors are also engaged to help the student in the regular studies. This shows that parents of the students in Sambalpur School are very much involved in their child's activities of the School.

When questioned whether they are aware of ~~their type~~ of continuous evaluation practiced in School, all the parents responded that they are aware of this type of examination system.

To the ~~best~~ rest question regarding the usefulness of the projects in general, 17 out of 24 parents thought that the projects are very useful. The various reasons given for the usefulness of the projects are that projects help in getting general knowledge, creates aptitude, self improvement, analytical thinking, creative and regular habits

in reading. 7 parents thought that the projects are not useful. The various reasons given for this are as follows:

- (a) It is oriented towards developing an ^{un} healthy competition for getting higher marks than creating original thinking., inquisitiveness etc.
- (b) Lots of projects and assignments are given in a short time.
- (c) It is waste of time.
- (d) Students do not prepare projects themselves, parents ^{had} ~~had~~ to bother for everything.
- (e) Projects ~~do~~ does not influence the students in study, rather parents are facing the problem.
- (f) Projects are all theoretical, there is no wide practical application.
- (g) Projects should be such that students can do it themselves in the school hours.

Some parents felt that projects may help in all subjects in general but they may help ~~more~~ more in Science.

Regarding the assignments, 21 out of 24 persons thought that assignments are helpful in almost all the subjects. The remaining 3 parents disapproved the assignments because of the following reasons.

- (a) Assignments should be done in the school itself so that the students can read for competitive examinations at home.
- (b) Child gets burdened up with so much of work throughout the year that the final examinations are of no importance.
- (c) It is difficult to manage the assignments and regular studies simultaneously for the child.

Regarding the usefulness of continuous examinations, the following four answers are suggested in the questionnaire and parents are asked to express their option.

The continuous evaluation is useful in

- (a) Increasing the inquisitiveness of the students.
- (b) Increasing the analytical power of the student.
- (c) Keeping the student regular in studies.
- (d) Any other reasons.

Out of 24 parents, 22 parents said that the Continuous Evaluation System definitely helps the student but 2 parents criticised the system. One parent criticised the teachers for not supervising the scheme as it ought to be and another parent thought that a lot of time is wasted on irrelevant topics which may be interesting ;

but there of no real use. Out of 24 parents who favoured the systems, 18 parents gave the answer c, 10 parents selected a, and 6 parents selected b. This indicates that majority of the parents view the system's usefulness in keeping the student regular in studies. One parent is happy with the system since it keeps the student out of mischief always and another parent is happy because the progress of the student is known to the parent from the beginning.

Lastly, when they were told that there is a feeling that the system of examinations is a waste of time and encourages the student to pass without reading much, 19 out of 24 parents asserted that it is not a waste of time. But 5 parents felt that it is not a waste of time but expressed their feeling that something is wrong either because of faults in system or faults in implementation.

From the responses of the parents in Sambalpur School, the following facts became clear.

1. Parents are very much involved in their childrens' activities of the school.
2. Though majority of the parents thought that the projects are useful, the opposition to the projects is also very strong.

3. Majority of the parents thought that assignments are useful in all subjects.
4. Majority of the parents thought that the system is useful because it keeps the students regular in studies, But around 20 % of parents expressed their vehement opposition to the system as a whole.
5. Majority of the parents thought that the system is not a waste of time.

7.1.2 Visakhapatnam School.

21 parents responded to our questionnaire in Visakhapatnam School. With a view to understand the parental participation in the studies of their children, they were asked, " who helps the student in the regular studies?" Out of 21 parents, 12 parents informed that they help their children, 9 parents reported that their children read for themselves and only 2 parents reported that they employ a tuition master to help the child. This shows that about half the number of parents are involved in their children's school work.

All the 21 parents are aware of this type of continuous evaluation being practised in the Central School.

To the next question about the usefulness of the projects, 15 out of 21 parents informed that they are useful in all most all the subjects whereas 6 parents differed. The reasons they gave are that it becomes the parents' responsibility to complete the projects. Here also the opposition to the projects cannot be neglected. In case of assignments, all the parents agreed that they are useful and in all the subjects,

When questioned about the usefulness of the system, a majority of 17 out of 21 gave the answer c, which means that the system is useful since it keeps the students regular all the time in studies. The proposition 'a' of increasing the inquisitiveness is rejected by all parents. Only one parent felt that it will increase the analytical power. 3 parents answered 'd' providing alternative answers for the success of the system. Out of this three , two parents thought that this system helps the students in getting more marks. One parent, with a genuine concern, expressed that, " some may be brilliant, but cannot express in examination. For them this system is helpful".

To the ~~last~~ last question about the system being a waste of time, 13 parents disagreed with it, one was not sure about it whereas 7 parents thought that this is a waste of time. 4 of them thought that this is due to fault in the system and 3 expressed doubts, about faults in implementation. However, some important observations and suggestions were made by parents who thought that the system is a waste of time. These observations made by the parents are interesting, so we are giving them as they are in full for consideration.

1. Continuous evaluation is a stress on child, child tries to please the teacher and get good marks. So importance should not be given to local examinations. Continuous evaluation is bad. Projects are made in the dock yard by professionals or parents. So special care should be taken to see that the child himself do the project. Then it increases his creativity, thinking and everything.

2. Projects are good because students do them. But since these marks are not added in the final Board Examination, they do not care. Teachers are partial.

Assignments are good, Since the marks are added to the final marks, student is serious and takes care of them. Students get confidence with this type of work. But projects will not give confidence. If you get more marks, then others say that he is a pet to the teacher.

3. Teachers' evaluation depends on the image the girl creates.

Projects are direct method of teaching but they are given in such a way that it is for the parent to bring the chart paper, draw and do the project. So it is for the parent to do.

Whole year they should teach the syllabus.

4. Projects are normally done by elderly people. For example parents. Sometimes, the projects of elder brother is passed on to the younger brother. Assignments are good if taken regularly. Syllabus is itself too much. Projects on one side, assignments on the other and regular studies in addition. No justice is done to any one.

Teaching techniques are not used properly and hence continuous evaluation is not very good.

5. Continuous evaluation is better. They should be guided and not coached. Teachers and students should do themselves.

From the responses of parents in Visakhapatnam School, the following facts become clear.

1. More than half of the parents are involved in their childrens' activities of the school.
2. Though majority (more than 70 %) thought that the projects are useful, the opposition is also very visible.
3. All the parents agreed for the usefulness of the assignment.

4. Majority of the parents thought that the system is useful because it keeps the students regular in studies.
5. Though majority (70 %) of parents thought that the system is not waste of time, other section who thinks the system is a waste of time are also in good number.

7.1.3 Delhi School.

In Delhi School, a total of 30 parents responded to the questionnaire. With a view to know the parental help and their participation in the studies of their children, they were asked the same question as in the previous schools which is who helps their children in this studies. The same options are given and they are father, mother, tutor and the student (self). Out of 30 parents, only 10 parents are involved. 17 out of the 30 parents read for themselves. This indicates that majority of the parents, though highly educated, are not involved in their childrens' studies.

All the 30 parents are aware of this type of continuous evaluation being practised in the Central School.

When the parents were asked whether the projects are useful or not, and also to name the subjects if any in which the projects are useful, 24 out of 30 parents thought that the projects useful and 12 parents reported that they are useful in all subjects. 10 parents reported usefulness in Science. Only one parent reported that the projects are useful in all the subjects except Mathematics. So majority of the parents thought that projects are useful in all

subjects, more so in Science. The remaining 6 parents, which adds to 20 % of the parents, who thought that the projects are not useful at all, gave the following reasons.

- (a) It is waste of not only money and materials but also a waste of valuable little time they have at their disposal and infact it is a type of obstruction into the path of study.
- (b) The students are fully dependent on the parents or other persons.
- (c) Projects are not well thought over or taken seriously.

Regarding the assignments, when they were asked whether the assignments the teachers give are useful to the students, and also asked them to name the subjects in which assignments are useful to the students, all the 30 parents agreed that assignments definitely help the students. 22 out of 30 parents thought that they are helpful in all subjects and only 2 parents thought that they are helpful in Science and Mathematics and only one parent thought that they help in Science and Social Studies. So it can be inferred that majority of the parents thought that the assignments help in all the subjects.

When questioned about the usefulness of the system, the responses we got are very interesting. 18 out of 30 parents gave only one answer , c , which indicates that the system is exclusively useful in keeping the student regular in the studies. In all, 10 parents selected a, (increasing the inquisitiveness of the students) 10 parents selected b (increasing the analytical power of the student) and 27 parents selected c. This result indicates that, in parents view, the major usefulness of the system is in keeping the students regular in studies.

Lastly, when they were told that there is a feeling that the system of continuous examination seems to be waste of time and encourages the student to pass without reading much, 22 parents asserted that it is not at all a waste of time, but 5 of the parents thought that something is wrong in the implementation of the system. 8 parents thought that it is a waste of time either due to faulty system or faulty implementation. Here one parent advised that the system should be rationalised, otherwise it becomes mere formality to be completed.

From the responses of the parents the following facts became clear.

1. Parents in this Delhi School are not involved much in their children's studies.
2. Majority of the parents thought that the projects are useful in all subjects, more so in Science, and the opposition to projects is low.
3. Majority of the parents thought that the assignments help in all subjects.
4. Majority of the parents thought that the system is useful because it keeps the students regular in the studies.
5. Majority of the parents thought that the system is not a waste of time.

7.2 Students Responses.

In this section, we present the responses of the students towards the usefulness of the Continuous Evaluation System. The questionnaire we canvassed contains questions regarding the activities they like in the School, the subjects they like most, the subjects in which they get more marks, the help they receive from the parents, their assessments of the projects, assignments and finally their assessment of the Continuous Evaluation System. We collected responses from 20 students in Sambalpur School, 22 students from Visakhapatnam School and 28 students from Delhi School. The following are their responses.

7.2.1. Sambalpur School.

In Sambalpur School, 20 students responded to our questionnaire. We wanted to know the activities a student likes most in School and we gave the following three answers. They are (a) Studies, (b) Sports, (c) Literary activities. Out of 20 students 18 people liked the studies. Out of this 18 students, 6 students answered only (a) that is they like only studies in the School, 6 students answered (b) which means they like studies as well as sports in school,

5 students answered (a,b) which means they like studies as well as sports in School, 3 students answered (a,c) indicating they like studies as well as literary activities in the school and there are 3 students who answered (a,b,c), indicating they like all the three activities of the school. There is only one student who likes only sports and one more who likes only literary activities of the school. It is interesting to note that all the 20 students participated in one or the other of the sports and games.

When questioned about the subjects they like ,9 students out of 20 indicated a liking for the subject Science, 6 students for Mathematics, 3 students for English, One students Hindi and only one student likes Social Studies. But when they were asked in which subject they get more marks, 6 students told that they get more marks in Science, 6 students get more marks in Mathematics, 3 students get more marks in each of the subjects Hindi and English and one student gets more marks in Social Studies. It is interesting to note that there are 11 students out of 20 who get more marks in the subject they like. The students who like Science reported that they like the subject Science, especially Biology part of it, because it deals with the study of human being and they are one of them, they have greater liking towards it,

About Mathematics, one student informed that they like Mathematics because it is the gate and key to all Sciences and neglect of Mathematics is causing injury to acquisition of knowledge and also asserted that the student, if ignorant of Mathematics, cannot understand the other Sciences. One more student informed as that she gets more marks in Mathematics as well as Science because they don't need to be by hearted (learnt by note). Students who like Mathematics said that since it is challenging they like it and also they can get full marks for correct answer.

The next question we wanted to know the answer is who helps them in their studies. 7 out of 20 students reported that they read for themselves and none help them. All the rest of the 13 students take their parents help and 6 of them take the help of a tutor also.

When we asked them whether they like the projects, if they like it, then in which subject they like, and whether they want more projects to be given in future, we got the following answers. 14 out of 20 students replied that they like the projects, and 10 of them reported that they like projects mainly in Science. Only 2 students like the projects in Mathematics, 1 student likes in English and

only 1 likes the projects in Social Studies. Out of 20 students, 6 students reported that they don't like the projects at all but added that Science projects are better in general. Except one student, no student desires to do more projects in future.

Coming to the selection of the projects and completion of them, generally teacher suggests projects and students complete them with the help of parents and library. In case of assignments, in addition to the exercises at the end of the lesson, teachers give some more exercises from different text books, especially in Mathematics. The teacher also asks them to solve the previous question papers of Board Examination.

Next in order to know their assessment regarding the usefulness of the projects, the following five answers are suggested in the questionnaire and the students are asked to express their opinion. The projects are useful to the students in

- (a) getting good idea about the subject,
- (b) getting interest in the subject,
- (c) In answering questions which are not given in the text books,

- (d) In preparing for the Board Examination,
- (e) If not useful, then explain why ?

The responses of the students are as follows:

a = 9
b = 2
d = 2
e = 5

Nine students told that they give good idea of the subjects, two students thought they help in getting good interest in the subject, only two students said that it helps in preparing for the Board Examination, and five students reported that projects are useless and gave the following reasons.

- (a) Unless somebody helps, we cannot do them
- (b) Reading the books can help more than doing projects.
It is a waste of time.
- (c) Usually we do projects on irrelevant topics which do not help us in our Board Examination and they are useless and a waste of time.

To the last question, whether this present system of continuous evaluation is useful or not , again the above five students who do not like the projects, also said that the system is useless. All the other students said that the system is useful but some of them felt that students should not be taxed with heavy load of home work.

7.2.2 Visakhapatnam School.

In Visakhapatnam School 22 students responded to our questionnaire when we wanted to know the activities they like most in the school. Eight students like only studies in the school, five students like only sports and two students like only literary activities. Out of the remaining seven students, five of them like studies as well as sports, and one student likes literary activities in addition to studies and lastly only one student likes all the three activities. To look ^{at} it differently, fifteen students like studies, eleven students like sports and four students like literary activities in the school. Except two students, all the others participated in the sports activities.

The students were then asked to name the subjects of their liking, ten out of twentytwo students like Sciences, next in importance comes the subject Mathematics with six students liking it, English is liked only by four students and Hindi is liked by only two students and lastly no student likes the subject Social Studies. To the next question regarding the subject in which they get more marks, Science and Mathematics ~~is~~ top the list with eight students getting more marks in each subject. Only three students get more marks in Hindi and one student get in English

and none of the students either like Social Studies or get more marks in it. We were told that Mathematics and Science teachers are very good and they clear their doubts and the students like them. This, the students think, is the reason for getting more marks in the subjects. The reasons for liking Hindi is that it is their mother tongue. The students who like English said that since all the books of Science are written in English, making ^{good} knowledge of English is necessary. Another student commented that English is international language and they should know it. The students who like Mathematics said that it is challenging and also requires brain and mugging is not necessary. Science is liked because it deals experimentally with all substances present. Social Studies is left alone. A look at the students who like and get more marks in the same subject is interesting. In all, eleven such students are there. There are students who like Science but get more marks in other subjects. Similar variations are there for other subject too.

When we wanted to know who ~~go~~ help them in their students, twelve students out of twentytwo said that they read for themselves and ten students take parents help. No body takes the help of a tuition teacher.

Next, when we asked them to express their opinion about projects, whether they like them or not if they like projects, then in which subject they like and whether they are willing to have more number of projects in future, 16 students out of 22 like projects and 6 students do not like them. A majority of the students numbering 12 like the projects in Science. Projects in English, Mathematics and Social Studies are liked separately by 2 students each. 10 out of 22 students are not willing to have more projects but the rest of them are willing to have more projects in future. Here also the teacher suggests the projects and students take the help of either parents, sisters, brothers or library to complete them.

The 4 questions at the end of each lesson are given as assignment work. In addition to this, problems from other books and solving question papers of the Board Examination are also given as assignment work to be done at home.

To the question about the usefulness of the projects, the following are the responses we got :

a	=	15
b	=	10
c	=	7
d	=	8

15 students out of 22 informed us that projects are useful because they get good idea about the subject, 10 students said that they develop interest in the subject if they do projects. 7 students said that they can answer questions which are not in the text books. 8 students said that they can answer well in the Board Examinations.

To the last question about the usefulness of the present system of continuous evaluation, all the students except one agreed that it is useful and the one student also is not sure whether the system is useful or not.

7.2.3 Delhi School.

In Delhi School, 28 students responded to our questionnaire. When we wanted to know the activities they like most in the school, all of them, informed that they like studies most in the school, except one student, who likes sports, games and literary activities of the school.

Among the 28 students, 12 of them like only the study aspect in the school, 11 students like sports also in addition to studies, only one student likes the literary activities in addition to studies. There are only 3 students who like all the three activities of the school, lastly there is one student liking other activities like sports and literary activities except studies. To look at these facts in another way, there are 27 students who like studies, 15 students who like sports and only 5 students who like literary activities most in the school. Except 5 students, the rest of them participated in one sports or other.

When the students were asked about subjects which they like, surprisingly no body liked the subject English, only 3 students like Hindi, Science and

Social Studies were liked by a 7 students each and a maximum of 12 students like Mathematics. But to the next question to name the subject in which they get more marks no one reported that they get more marks in English, 5 students get more marks in Hindi, only 1 student gets more marks in Science and in Social Studies 5 students get more marks and a maximum of 17 students get more marks in Mathematics. Another interesting fact is that 11 students like mathematics and also get more marks in it. Students gave various reasons for this such as- it is interesting, scoring, gives knowledge and gives mental practice. Since they like the subject Mathematics, they work hard, practice much and get more marks. One student informed that the teacher is a very good teacher and hence they like the subject and so they work hard to get more marks. 5 students like and also get more marks in Social Studies.

When we wanted to know who helps them in their studies, 16 out of 28 students informed that they do not take the help of anybody but they themselves read. 11 students take the help of parents and only 1 student takes help of tutor.

Next, we wanted to know their opinion about the projects and so we asked whether they like the projects and if they like, in which subject they like and

whether they are willing to have more projects in future, out of 28 students, 9 students do not like the project at all, and 19 students like the projects. Here also, no student likes the projects in English. Out of 19 students who liked the projects, majority of 11 of them like projects in Science; 3 students like the projects in Mathematics, 3 students like them in Hindi and only 2 of them like them in Social Studies. For the next part of the question, whether they want more projects to be given in future. only 11 out of students appreciated the idea and the rest of 17 students disagreed with it.

Projects in general are suggested by teachers and the students take the help of either parents or library to complete them. Regarding assignments, the students informed that marks are given in assignments for completing the class work, home work, maintaining the copy and also to the neatness of the work and finally to students responses in the class room.

To the question about the usefulness of the projects, the following are the responses we got.

a	=	13
b	=	11
c	=	4
d	=	14

Out of 28 students, 13 students thought that projects are useful because they get good idea about the subject, and 11 students thought that the projects help in getting interest in the subject. But a large number of students, 14 out of 28 of them thought that the projects help in preparing for the Board Examination.

To the final question whether the present system of continuous evaluation is good or not, 7 students thought that it is not useful and 21 students felt that the system is useful, 4 of them gave the reason that with the help of projects and assignments, they get good marks.

7.3 Teachers' Responses.

In this section, we present the responses of teachers regarding the usefulness of the system. The questionnaire we canvassed contains questions regarding the improvement of their educational qualifications, work load in curricular and co-curricular activities in the school, their assessment of the system and finally their suggestions. We have collected responses from 20 teachers from Sambalpur School, 21 teachers from Visakhapatnam School and 23 teachers from Delhi School. The following are their responses.

7.3.1 Sambalpur School.

In Sambalpur School, 20 teachers responded to our questionnaire. Since the total number of teachers are only 22, we contacted the teachers of co-curricular activities like Music, Craft and Sports also. As we have pointed in Chapter- II, craft teacher teaches Hindi to lower classes, Yoga teacher teaches Mathematics and Music teacher teaches Sanskrit to the lower classes.

Out of 20 teachers, 13 of them are not pursuing further studies. Out of the remaining 7 teachers, 4 teachers are doing Ph.D., 1 was doing M.Phil, Music teacher is appearing for M. Music and Yoga teacher is studying Yoga as a subject of ^{physio}Psychology and one teacher is regularly writing articles in education.

A teacher has nearly 30 to 33 hours of teaching per week, in addition to the other duties assigned. Some times, the work load of a teacher becomes very heavy. For example, in case of Biology P.G.T. in addition to his 14 periods of theory and 16 periods of practical work, other responsibilities he has are - Class teacher of Class X, in-charge of sports and games, in-charge of disciplines, in-charge of cultural affairs, in-charge of library since Librarian was not there, in-charge of Physics laboratory since P.G.T. Physics was not there, in-charge of Biology Laboratory, in-charge of Science Club and finally in-charge of functions to be arranged in the school. He is also in-charge of adventure club and nature club. It is anybody's guess how many person can perform all these activities satisfactorily.

Next, to get their opinion about the continuous evaluation and its usefulness, four answers are provided in the questionnaire and teachers are asked to express their opinion. The four answers are,

The Continuous Evaluation System,

- (a) helps the students in becoming regular in studies,
- (b) helps the student in becoming inquisitive and creative,

- (c) helps the student in understanding the subject,
- (d) helps the student in appearing the Examinations,
- (e) If no to the above, give reasons.

One teacher did not respond at all from the begining and from the rest we got the following responses.

a,b,c,d =	15	or	a =	17
b =	1		b =	16
a,b =	1		c =	17
c,d =	2		d =	17

Out of 19 teachers, a majority of 15 teachers believe that Continuous Evaluation System helps the student in all the four ways.

When we asked the teachers about their observations if any, we got the following:

1. Since some students are good in projects and some are good in assignments, and others good in studies, every body should get the benefit and hence the continious evaluation is good.

2. Projects are very good if the teachers and students take them seriously. But now they are not taking like that. They just give away marks like that which is bad to the student.
3. Projects must be a part of assignments carrying only 10 % marks with unit tests, half yearly and annual examinations having 30 % marks each.
4. Since we are continuously evaluating the students, we can know whether they are understanding the subject or not and the teachers themselves can know whether students are understanding the topics which they are teaching and so a correction can be made in the teaching methods.
5. Unless examinations are conducted with an interval of four months, it becomes a burden to the teacher as well as student.
6. Projects help the student to pass who are not strong in studies. Parents have to work hard.
7. This is one sort of a training we give to the student upto Ninth, but in Tenth Board Examination, emphasis has been given to written work only. So oral examination alongwith practical examination must be given due recognition.

8. This Continuous Evaluation System is good but there are implementation problems.

Six teachers thought that though this system is useful, it is a burden to students, teachers and parents.

7.3.2 Visakhapatnam School.

In Visakhapatnam School, 21 teachers responded to our questionnaire. Out of 24 teachers, only 6 of them are pursuing higher studies such as M.Sc., M.Ed., or M.A. Out of them, one teacher is doing her B.Ed. and 4 teachers are preparing for their Master Degree and one teacher is working for Ph.D.

A teacher has nearly 30 to 35 periods teaching per week, and an adhoc teacher has only 24 to 25 periods per week in addition to other duties. For example, a P.G.T. in Biology, in addition to the regular teaching and laboratory duties, is in-charge of Book Bank, Nature Club, House Mistress, in-charge of C.B.S.E. Examination, Convenor for Science Study circle and member of discipline committee.

Next, we wanted to know their assessment of Continuous Evaluation System, we gave the same questionnaire in which the four answers are given and the teachers were asked to express their opinion. The responses are as follows :

1

a,b,c,d	=	16	or	in other words
a,b,c	=	1	a	= 21
a,b,d	=	1	b	= 18
a,c,d	=	1	c	= 19
a,c	=	1	d	= 19
a,d	=	1		

All the 21 teachers believe that it definitely makes the student regular, 18 of the teachers believe that Continuous Evaluation System makes the student inquisitive, 19 teachers believe that Continuous Evaluation Systems helps in understanding the subject and also in appeasting the examinations.

The following observations were made by the teachers regarding the improvement of the system.
Suggestions relating to projects:

- (1) (a) Every student gets more marks in projects and assignments because of copying. So weightage of these two must be minimised to 5 % of total marks and unit tests should ^g be given more weightage.
- (b) Projects sound beautiful, but in actual practice, the teachers are given little scope to give new projects due to heavy workload of syllabus and also time factor. Studies^{ents} are left with little time to work on projects. A replacement is necessary for projects.

- (2) (a) Group projects are better upto Class- four.
- (b) More number of projects should be supplied to the school, so that the same project will not be repeated.
- (c) Projects for each ~~term~~ term should not be emphasised.
- (3) Oral examinations and the submission of the project must be there.
- (4) Teachers should be re-oriented for the project work.
- (5) Stress on projects should be reduced. It is impossible to help the student. Projects are a burden to the teacher, parent and student.
- (6) Projects are done in hurry with the help of parents. No effort is made by way of reference work, enquiry, analysis etc. The main aim of the pupil becomes only to get more marks.
- (7) No need of projects, if they are there, only grades should be given.
- (8) Only one project is sufficient for the entire year, preferably in first term. Otherwise, this is a painful affair.

Regarding the assignments, only one suggestion came forward, which is given in the following:

1. Though regular home assignment is essential, taking the assignment marks for promotion dilutes the standard. Out of 40 students in a class, not more than 10 students do the assignment themselves. The rest copy and every one gets equal marks.

Suggestions regarding the unit tests are as follows:

1. There is no need of special type of tests-namely giving model papers and giving a test from the same model question papers. This type of tests are to be replaced by assignments.
2. Unit tests must be organised in a more methodical manner. It will not be an exaggeration to say that in a class of 40, there is a lot of copying done and the teacher is helpless. But these tests will really assess the child's performance if properly organised.

The following are the suggestions in general.

1. Continuous evaluation will be more fruitful if teachers are exempted from the duty of collecting fees and other duties, as this would allow more time to devote to the planning, evaluating and taking up follow-up work.

- 2.(a) With the increased syllabus to be covered by the students, it will be better to introduce// semest-
-er system in schools also.
- (b) Instead of sticking to our traditional system of examination, that is asking direct questions from text books etc., introduce thought provoking questions where the student has to apply the various laws, principles etc. If required, the students may be allowed to refer books also.

7.3.3 Delhi School.

In Delhi School, 23 teachers responded to our questionnaire. out of 23 teachers 19 of them are not pursuing their studies in any form. out of the remaining teachers, one ²²teaching is trying to continue M.Sc. in Mathematics, another teacher is pursuing M.Ed. and one more teacher is continuing M.A . One teacher wants to continue the studies but complains that the Sangthan does not offer any scope like study leave etc.

A teacher has an average work load of 30 to 36 periods of regular teaching work. In addition to this, they have to do many other duties for the proper functioning of the school. Each teacher is appointed as class teacher of one class and is responsible for the proper functioning of the class in the School and the duties associated with this are discipline, monthly fees collection of the class, preparing the marks sheet of the class which is rather complicated. These activities are in addition to the teacher's regular work of teaching for which the teacher was appointed. For example, a T.G.T. appointed as a Science teacher in the school, has 15 periods of theory and 14 periods of practical (29 in total). In addition to this, she

is in-charge of laboratory, C.C.A. activities, Class teaching, Fee collection and also in-charge of games. This makes the work load very heavy.

Next, to get their opinion about continuous evaluation, we gave the same questionnaire in which same four answers are given and the teachers were asked to express their opinion. The responses are as follows :

a, b, c, d	=	13	or	a	=	19
a, c, d	=	5		b	=	14
b, c	=	1		c	=	19
a	=	1		d	=	21
d	=	3				

Out of 23 teachers, 13 teachers agreed for all the four options, and 5 teachers agreed for three option. In all, 21 out of 23 teachers agreed that Continuous Evaluation System helps the student in the Board Examination. This is the option agreed by majority of teachers. 19 teachers agreed that Continuous Evaluation System helps the student in becoming regular in studies and also helps the students in understanding the subject. Only 14 of the teachers felt that the system helps the student in becoming

inquisitive and creative. One teacher expressed his thoughts about the usefulness of the system elaborately as follows:

In this continuous evaluation, students are being given training to write answers as expected in the Board Examination. The teacher also expressed doubt about the students becoming inquisitive and creative in the present system. The teacher agreed that " Unless objective type of questions are asked, it does not help in becoming inquisitive and creative. But he later on added that " But in a class of 42 to 45 and sometimes even 50, asking objective type of questions is useless as there are changes of mass copying inspite of strict vigilance.

Finally, at the end when asked whether the teachers want to make any suggestions regarding examination system, only few teacher responded enthusiastically. The following are their observations:

1. Unit tests are helpful but assignments and project work merely help to increase the pass percentage. It reduces their standard.
2. For Class IX, no assignment and project work should be given. Of course, unit tests are very helpful to the students. Until class VIII, assignments and project marks can be given to encourage them.

3. During the session, only three tests should be conducted, assignments must be added to their performance. Projects and other tests must be avoided. Some times, too many tests create boredom among the students.

Explaining the drawbacks of the system three teachers expressed the following opinion.

1. The advantages of the continuous evaluation cannot be questioned. But just by imposing a framework, without providing the facilities (example cyclostyiling etc) and a lower work load makes it difficult for a teacher, who might want to practice it properly. The result is that continuous evaluation gets practiced more" for the sake of the record, that is only on paper.
2. Work load of the teachers and students should be reduced by reducing the syllabus. The system of examination is highly unreliable, very often the system tests the wrong things in an unproductive manner. It needs to be totally overhauled.
3. There should not be examinations at all. Instead, only tests must be there. But tests should be prepared carefully to test the knowledge and comprehension of the student.

Chapter 8

SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSION

The present project is the result of a curiosity, a curiosity that is resulting out of the authors being parents of two children who passed out of the Kendriya Vidyalaya System, and the two authors being involved in the pedagogy at various levels and of various constituents and further the two authors being involved in studying the relationships between the society and educational institutions.

The continuous evaluation system involves considerable investment of time and resources of the teachers, investment of time by the students and investment of time and resources by the parents. As parents, the present authors have spent an hour or so daily and some money to buy the necessary inputs, and as teachers, also spent an extra hour at home to correct the various scripts and prepare for the projects, and as researchers spent considerable time and money to assess the system before formally submitting a research proposal which formed the basis of the present report.

The continuous evaluation system has exciting possibilities as it permits the students to show a lot of creativity, learn while experimenting and it takes away the drudgery that goes with single point examination. For the teachers, though it means an extra work load, gives ample opportunities to participate

in the excitement of the learning process of the student and also gives a scope for them to learn themselves. To the parents, the system gives a scope to participate in their childrens' creative activity on a more or less regular basis.

With such experiences and expectations, the project proposal submitted to the N.C.E.R.T. aimed at studying the success of the system from two different angles. The first angle was from the students themselves. Have the students benefited by the system ? To define and quantify the benefit, the continuous evaluation system was looked at as a system with an objective of training the students to face uncertainty. The various components of the continuous evaluation system were sequenced on the basis of uncertainty the student faces and the performance of the students at various levels of uncertainty are ranked into eight runs. On the basis of such ranking, the question was posed whether the students have taken the system with that objective, if so, how many students have taken with that objective ? For purposes of comparison, the runs are further grouped into three run groups viz., U group, I group and F group representing the usefulness, Indifference and failure of the system respectively.



The second angle was from the other direct beneficiaries of the system, namely the parents. Here the basic question posed was -what are the implied perceptions of the parents ? Will the educational level of parents (both father and mother) and the income level of the parents influence and change the perceptions and usage of the system in the context of the above stated objective.

Three schools at Sambalpur, Visakhapatnam and Delhi are choosen to collect data to study the variations of environment and its effects on the system. Within each school, the five subjects that form the curriculum ~~are~~ namely English, Hindi, Mathematics , Science and Social Studies are taken for analysis.

The success of the system as defined earlier from the first angle can be visualised at two levels. At the first level, we defined that the system is successful, if majority of the students improve their performance with increasing uncertainty. In other words, U run group registers the single largest frequency compared to I group and F group. If F group presented the single largest frequency, the analysis suggests that the system has failed. In case I group registers the majority, the indifference to the system is indicated. This method we termed a method of finding ^{Short run Success} of the system. Relative positions of success or failure in all the five subjects in all the three schools indicating the short term success or failure is discussed in chapter-iv. The results are as follows:

In the subject English, U group in Delhi School registered a single largest frequency of 49 % compared to both F and I groups. But in case of Visakhapatnam and Sambalpur Schools, majority of the students come under I group, from which one can infer that the system seems to be successful only in one school namely Delhi School in the short term whereas students from Sambalpur school and Visakhapatnam school are indifferent to the system, making the system irrelevant.

In Hindi, Visakhapatnam school and Delhi School have/highest number of students in U group. Visakhapatnam school has 49 % and Delhi School has 63 % in U group. In case of Sambalpur school, higher number of students are in F group, also called a failure group, compared to the other two groups. This indicates that the system seems to be successful in the short term in two schools namely Visakhapatnam school and Delhi school but failed in case of Sambalpur school.

In Mathematics, similar results like that of Hindi are obtained. In Visakhapatnam school single largest frequency of 36 % is registered in the success group, but in Delhi school, a high frequency of 40 % is recorded not in one group but by both U group as well as I group, from which it can be inferred that the system seems to be successful in Visakhapatnam

school but in case of Delhi school, no sharp signs of success are indicated. In Sambalpur school, a large number of 62 % students are recorded in failure group where the students could not be benefitted by the system.

The last two subjects namely Science and Social Studies, show completely different trends, where in the system seems to be not successful in any one of the three schools. In addition to this, Sambalpur school shows signs of failure in Science and Delhi school shows signs of failure in social studies.

Looking at the same results in each school, Sambalpur school projects a pitiable picture where the students could not get the benefit of the continuous evaluation system not even in one subject. The system seems to be not successful in all the subjects in the short term. Moreover, the school signs shows signs of failure in three subjects namely Hindi, Mathematics and Science.

In Visakhapatnam school, the system seems to be successful in atleast two subjects namely Hindi and Mathematics. One interesting fact about this school is that the system did not show signs of failure in any subject.

In Delhi school, the system seems to be successful in two subjects namely English and Hindi, but shows signs of failure in social studies. The following are the results in a nut shell.

<u>Name of the School</u>	<u>Subjects in which the short term success is observed</u>
1. Sambalpur school	Nil
2. Visakhapatnam School	(a) Hindi (b) Mathematics.
3. Delhi School	(a) English (b) Hindi.

The second level, which is also called the long term success of the system is the situation of taking the final performance of the students into consideration. Long term success in this situations means that the advantages a student got in the Ninth class because of the training imparted by this / type of continuous evaluation system is utilised effectively in the Tenth Board Examination. Here the success of the system is defined as one where the U run group students perform better than students of I group or F group. On the contrary, if F group students register higher marks than U and of I, this indicates the failure of the system. Similarly if I group registers the highest

average mark, the indifference towards the system is indicated. In order to assess the long term success of the system, the performance of the students both in the Ninth as well as Tenth class are to be considered. The analytical details are presented in Chapter V. In what follows, we present a summary.

In the subject English, the system shows clear signs of success only in one school namely Delhi school. If obtaining highest number of first classes in the Board Examination in U group is seen as an index of success in Delhi school, 33 % of students get first class in U group, which is the highest among the three groups. The difference of marks between U and F groups in Ninth class is 7.72, and this difference has only marginally decreased to 6.93 in Tenth class but still U group in general got higher marks than both I and also F groups in Ninth as well as Tenth classes.

In Hindi, the system seems to be not successful in any of the school. Delhi school showed signs of success to some extent by getting higher average marks in U group compared to F group, but the other factors did not support the success of the system in Delhi school. Among the three groups, I group recorded higher number of first class than

U group. U group has only 61 % of its students getting first class whereas I group has 79 % of the students getting first class.

In Mathematics, the system seems to be an absolute success in Visakhapatnam school. Here, not only all the indices showed clear signs of success but also the difference in average marks between U and F groups which is 16.8 in Ninth class has increased to 29.76 marks in the Tenth class, which is quite a substantial difference. In addition to this, 61 % of students in this group gets first class marks, the highest among the three groups, which speaks about the success of the system in clear terms.

In Science, the system seems to be successful in Delhi school. Here the difference between the average marks in U and F groups is 12.78 both in Ninth as well as Tenth classes. Observing the number of first classes in U group, this group got 53 % whereas F and I groups also got 55 % of the students getting first class marks.

In Social Studies, continuous evaluation system seems to be quite successful in Visakhapatnam school, with clear signs of success. The difference of marks between U and F groups is 23.15 in Ninth class which has increased to

33.43 marks in Tenth class. In this case also, the difference is quite substantial. Regarding the number of first classes in U group, in Visakhapatnam school, 81 % of students got a first class mark which is of course the highest among the three groups.

The following are the results in a nut shell.

<u>Name of school</u>	<u>Subjects in which long term success is seen.</u>
1. Sambalpur School	Nil
2. Visakhapatnam School	(a) Mathematics (b) Social studies.
3. Delhi School	(a) English (b) Science.

Observing the results of short term and long term together, we can distinguish the success of the system as a whole into three kinds namely Nominal success, Partial success and Complete success of the system, which can be defined in the following way.

1. If the system is successful only in the short term, then the system is said to be nominally successful. In this case, majority of the students got the necessary training to face the uncertainty (the real objective of the system) but this training did not help them to perform better in final examinations.

2. If the system is successful only in the long term, then the system is said to be partially successful. In this case, only a small number, not majority, could get the training, but this training helped them to perform better in the final examinations.
3. If the system is successful both in the short term and also long term, then the system is said to be completely successful. In this case, majority of the students not only got the necessary training to face the uncertainty, but this training helped them to perform ~~more~~ better in the final examinations.

Now looking at the results in this way, Nominal success of the system is observed in the subject Hindi in both Visakhapatnam and Delhi schools. Partial success is observed in Science in Delhi school and also in Social Studies in Visakhapatnam school. Complete success of the system is observed in English in Delhi school and Mathematics in Visakhapatnam school. In other words, in Sambelpur, the system is a complete failure.

In Visakhapatnam School

Mathematics has complete success
Social Studies has partial success and Hindi has nominal success.

In Delhi School

English has complete success
Science has partial success
Hindi has nominal success.

Now we come to the second angle where the system is observed from the other direct beneficiaries of the system namely the parents. Parents reactions to the system are enquired in the form of a questionnaire. They are the direct reactions, but the parents do reveal their perceptions, through the performance of their wards as the continuous evaluation permits regular feed back to the parents about their wards performance and gives scope for parental interaction with the system. It is their interaction with the system that we wish to study as their revealed perceptions, by studying the parental characteristics of the wards in the various run groups. We formulated three hypotheses in this regard.

1. Higher the level of fathers' education, higher is their perceptions and responses to make the system a success, the success defined as earlier.
2. Higher the level of mothers' education, higher is their perceptions and responses to make the system a success, the success as defined earlier.
3. Higher the level of income, higher is the perceptions and responses to make the system a success, the success defined as earlier.

In chapter VI, we have analysed the data and the results are as follows :

Effect of father's education:

Though the three schools widely differ in terms of fathers' education, the perceptions and responses of fathers towards the system are rather surprisingly similar. In Sambalpur school, Science is the only subject in which higher levels of fathers' education does help to some extent in perceiving the system in a positive way to make it a success. In Visakhapatnam school also, there is only one subject, that is Mathematics where higher fathers' education could serve as a necessary input towards the success of the system. In Delhi school, there is no subject in which higher levels of fathers' education generated positive responses towards the system.

In all, Sambalpur and Visakhapatnam schools have one subject each and Delhi school has no subject where fathers with higher education responded to the system favourably.

One can conclude, from the above, that the hypothesis 1 one referred to stands rejected. In other words, higher levels of fathers education does not necessarily lead to their developing a better perception about the usefulness of the system or their using the system for the betterment of their children. Education of father thus does not become a necessary input in making the system a success.

Effect of Mother's education:

The three schools differ in terms of mother's education and their perceived responses towards the system also differ. In Sambalpur school, higher levels of mother's education could generate higher responses towards the system only in one subject namely Mathematics to some extent. But in Visakhapatnam school, mothers with higher education could perceive and respond better to the system in three subjects namely English, Hindi and Mathematics. In Delhi school, higher level of mother's education could generate positive responses towards the system in two subjects namely Science and to some extent in Hindi.

In all, Sambalpur school has one subject, Visakhapatnam school has three subjects and Delhi school has two subjects where mothers with higher level of education responded to the system favourably.

From the above, one can conclude that the hypothesis No.2 formulated before is not rejected totally. In otherwords, higher levels of mother's education to some extent do necessarily lead to perceiving the usefulness of the system. Thus, education of mothers can become a useful input to some extent in making the system successful.

Effect of Parental Income:

The three schools differ in terms of their parental income and their perceptions towards the system also differ. In Sambalpur school, higher levels of parental income could generate higher responses towards the system only in one subject, that is Mathematics. But in Visakhapatnam school, parents with higher incomes could respond better towards the system in three subjects namely Mathematics, Science and Social Studies. In Delhi School, there is not even a single subject where parents with higher income responded favourably to the system.

In all, Sambalpur school has only one subject, and Visakhapatnam school has three subjects and Delhi school has not a single subject in which parents with higher levels of income responded to the system favourably.

From the above, one can conclude that hypothesis No.3 formulated before is not totally rejected. In other words, higher levels of parental income to some extent do not necessarily lead to their using the system in training their children in a better way.

Thus, income of parents can become a useful input to some extent in making the system successful.

Parents Responses :

We have canvassed a questionnaire to parents and 24 parents from Sambalpur school, 21 parents from Visakhapatnam school and 30 parents from Delhi school responded. The results of the questionnaire were presented in chapter VII for the three schools.

In Sambalpur school, a vast majority of parents got involved with their wards' studies either directly participating in the studies or giving other such help and majority of the parents perceive that the continuous evaluation system is very useful. Interestingly, out of the 24 parents in Sambalpur, 22 of them thought that the system is useful and out of this 22 parents, 15 of them said that the system keeps the students regular in studies; and only 10 parents said that the continuous evaluation system helps in developing the creativeness of the student. Even still less only 6 parents suggested that it helps the student in increasing the analytical power. Of course, 4 parents said that the system is a failure and a blunder. Taken together, majority of the parents do not seem to look at the continuous evaluation system as improving the capacities of the students in facing uncertainty and in that sense, it seems to be a failure. The revealed responses also indicate, as noted earlier, that the system did not succeed in Sambalpur school.

In Visakhapatnam school, about half the parents do help their children and majority of them perceive that the continuous evaluation system is useful. An overwhelming majority of the parents, however, see the usefulness of the system in its ability to keep the student busy with the studies all the time. The parents neither see the system as improving the inquisitiveness nor analytical power. Thus taken together, the parent's perceptions of the continuous evaluation system is one of making the children regular and they do not seem to attach any more objectives to it. Given the back drop of the parents that most of them belong to the Naval establishment, it is not surprising that discipline and regularity is emphasised. The revealed responses also indicate that parents' involvement is more in such subjects where discipline pay, that is, Mathematics.

Delhi school presents a picture, different than the other schools. Here, majority of the parents are not involved in their children's studies, and the children read for themselves. Regarding the usefulness of the system, a vast majority of the responses indicate the usefulness of the system due to the system's capacity to keep the students regular in studies. About one third of the parents see that the system has a capacity to increase the creativity and analytical power of the students. The parental non-involvement with the system is also revealed by our analysis earlier.

Taking together, the parents' responses seem to indicate that discipline and regularity seems to be the objective which they appreciate in the continuous evaluation system. Any other objective that makes for creativity and analytical power does not seem to draw their attention.

Students' responses:

The responses of students to the constituents of the continuous evaluation system is interesting. Quite a substantial number of students seem to be liking the project work. In Sambalpur, 14 out of 20 students like the projects, and a fairly good number of them like projects in Science. In Visakhapatnam school too, 16 out of 22 students like the projects and that too in Science, and in Delhi, 19 out of 23 like projects and here also in Science. In all the schools the projects are given by teachers and the students complete the project with the help of parents and library.

About the usefulness of the system, majority of the students seem to be viewing the system as useful in all the subjects. In Visakhapatnam school, ^{almost} all most all the students said that the system is useful in all the subjects. In Sambalpur school and Delhi school, though majority of the

students felt that the system is useful, still some strains of dis-satisfactions were heard regarding the usefulness of the system. Roughly 25 % of the students in both the schools express their disliking for the present system of evaluation for various reasons, which should be taken seriously.

Teachers' Responses:

Teachers who play a crucial role in the implementation of the system responded positively to the continuous evaluation system. A substantial majority of the teachers, irrespective of the school, seem to think that the continuous evaluation system promote among the students creativity, analytical ability, regularity and command over the subjects. However, the responses need to be taken with caution. The average workload of a teacher which works out to be 30 teaching periods per week, in addition to the other activities, seemed to be burdened with work to spare time to increase the creative and analytical skills of the students. Given that, the positive responses of the teachers about the usefulness of the system in all the dimensions is a welcome response. It is here that the negative responses of some of the teachers need a greater weightage than the number of such responses indicate. As for example, a teacher in Sambalpur school said, " If teachers are exempted from collecting fees

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and other duties that go presently with the central school teachers, they can devote more time to planning and evaluation and take follow up work ".

But the evaluation of continuous evaluation system from that angle i.e., time budgeting of the teacher, should be taken up separately.

Conclusion:

Examination and reforms in examination have two main functions. The first function is the functioning of the productive forces, wherein the human being is equipped with tools and knowledge with which tools and knowledge the human being questions the tools and knowledge itself. Here the fundamental axiom of incompleteness of the knowledge plays a vital part and examination imparts that training to face this type of uncertainty. It is such a process that gives scope for creativity, imagination and analytical power. Here the examinations are by themselves an excitement.

The second function is the discipline and regularity in knowing what is already known and reproduce it when necessary. This is ranking function of the examination and particularly of examination where the students are ranked.

The continuous evaluation system seems to be a failure on the first function and partially successful in the second function.